



STIC Search Report

EIC 3700

STIC Database Tracking Number: 172024

TO: James Swiger, III
Location: RND 6d35
Art Unit: 3733
Monday, November 21, 2005

Case Serial Number: 10/706922

From: Ethel Leslie
Location: EIC 3700
RND 8A34
Phone: 571-272-5992

Ethel.leslie@uspto.gov

Search Notes

James,

Attached is the completed search for a method of using an intramedullary nail. I did an extensive search on the requested topic in bibliographic and full-text databases as well as on the Internet. I found one item I think might help you – it is marked with a yellow flag. However, please be sure to look over all the search results as there may be other items of interest. I have attached the search strategies used for the searches performed.

If you have a moment, please fill out the attached STIC Feedback Form. If there is anything I can do to refine or revise this search, please let me know.

Sincerely,
Ethel Leslie

RUSH

Access DB#

170024

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: James Swiger III Examiner #: 81582 Date: 11/18/05
Art Unit: 3733 Phone Number 30 2-5557 Serial Number: 10/706,922
Mail Box and Bldg/Room Location: RND 6035 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Surgical intramedullary implant w/ improved locking for fixation of fractured bone segments

Inventors (please provide full names):

Easton Manderson

Earliest Priority Filing Date: 11/14/2003

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Claims attached.

- For independent method, novel procedure involves removing AND resecuring a piece of fractured bone after insertion of intramedullary nail.

- please check the NPL before an allowance may be issued, to the above novel concept in relation to an intramedullary nail.

- * Successing is examined as "securing"

- Patent areas searched: 606/62,64, 79,80,85,86,99

* Please Rush *

Ed J. B.
SPE 3933

STAFF USE ONLY

Searcher: Ed J. B.

Searcher Phone #: 2-5992

Searcher Location: ELC 3700

Date Searcher Picked Up: 11/18/05

Date Completed: 11/21/05

Searcher Prep & Review Time: 170

Clerical Prep Time: 145

Online Time: 145

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) _____

Bibliographic ☒

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN _____

Dialog _____

Questel/Orbit _____

Dr.Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

| Set | Items | Description |
|-----|---------|--|
| S1 | 798 | (INTRAMEDUL? OR INTERMEDUL? OR IM OR MEDULLAR? ? OR MEDULA- R? ?) (3N) (NAIL? OR ROD OR RODS OR FIXATION?) OR FRACTURE? (2N) - FIXATION? |
| S2 | 184850 | BONE OR BONES OR FEMUR OR FEMORAL |
| S3 | 1208677 | FRAGMENT? OR PIECE? ? OR PLUG OR PLUGS OR PLUGGED OR PLUGG- ING |
| S4 | 595068 | FRACTUR? OR INJURY? OR INJURIES? OR INJURE? ? OR BROKEN |
| S5 | 1561059 | REMOV? OR (TAKE OR TOOK OR CUT OR CUTS) () OUT OR EXTRACT? |
| S6 | 2370000 | SECURE? ? OR SECURING OR RESECUR? OR SUCCOR? OR FASTEN? OR REFASTEN? OR FIX??? OR AFFIX??? |
| S7 | 1544104 | HOLE OR HOLES OR OPENING? OR APERTURE? OR PORTAL? ? |
| S8 | 0 | S1 (S) S2 (S) S3 (S) S4 (S) S5 (S) S6 (S) S7 |
| S9 | 1594 | S2 (5N) S3 |
| S10 | 14 | S1 (S) S9 |
| S11 | 9 | RD (unique items) |
| S12 | 1 | S1 (S) S3 (S) S5 (S) S6 |
| S13 | 1 | S12 NOT S10 |
| S14 | 3058 | S2 (5N) S5 |
| S15 | 0 | S1 (S) S14 (S) S6 (S) S7 |
| S16 | 0 | S1 (S) S14 (S) S7 |
| S17 | 104 | S1 (S) S14 |
| S18 | 0 | S1 (S) S14 (S) S3 |
| S19 | 19 | S1 (S) S7 |
| S20 | 17 | S19 NOT (S10 OR S13) |
| S21 | 8 | RD (unique items) |
| S22 | 0 | S1 (S) S14 (S) S6 |

? show files

File 16:Gale Group PROMT(R) 1990-2005/Nov 21

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File 160:Gale Group PROMT(R) 1972-1989

(c) 1999 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2005/Nov 21

(c) 2005 The Gale Group

File 621:Gale Group New Prod. Annou. (R) 1985-2005/Nov 21

(c) 2005 The Gale Group

File 15:ABI/Inform(R) 1971-2005/Nov 21

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File 441:ESPICOM Pharm&Med DEVICE NEWS 2005/Sep W4

(c) 2005 ESPICOM Bus. Intell.

File 149:TGG Health&Wellness DB(SM) 1976-2005/Nov W2

(c) 2005 The Gale Group

11/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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11115725 Supplier Number: 115033567 (USE FORMAT 7 FOR FULLTEXT)
Orthobiologics Drive Growth in the \$12 Billion U.S. Orthopedic Implants, Reconstruction, and Trauma Market, According to New Medtech Insight Report.

Business Wire, p5093
April 7, 2004
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 397

... and opportunities in: hip, knee, shoulder and small joint replacement; bone cements; internal and external **fracture fixation**; bioresorbable fixation products such as synthetic polymers for shoulder reconstruction, meniscal repair, small joint/ **bone fragment** and cruciate ligament fixation; **bone** growth stimulation; autograft, allograft and synthetic bone replacement materials; and orthobiologic products including bone growth...

11/3,K/2 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2005 The Gale Group. All rts. reserv.

11040841 Supplier Number: 113656795 (USE FORMAT 7 FOR FULLTEXT)
Bonutti Technologies Adds Absorbable PLLA Anchor to its TranSet(TM) Fracture Fixation System.

PR Newswire, pNA
Feb 26, 2004
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 371

TranSet, first cleared for marketing in 1999, is a novel **fracture fixation** system that employs suture and anchors to set bones and tissue. Anchors are applied to...

...bone cortex with suture running across the fracture, providing stabilization and linear fixation of the **bone** or tissue **fragments**. This compresses the **bone** or tissue **fragments** to promote healing.

Unlike previously available metallic and non-absorbable plastic anchors, the absorbable PLLA...

11/3,K/3 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2005 The Gale Group. All rts. reserv.

04635183 SUPPLIER NUMBER: 08841689 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Friendship does not a good referral make.
Horsley, Jack E.
Medical Economics, v67, n4, p61(1)
Feb 19, 1990
ISSN: 0025-7206 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 457 LINE COUNT: 00034

... some orthopedics, but nothing so complicated as this femur. There

were many fragments, and an **intramedullary nail** was needed. He bungled the job, and a malunion resulted. The patient ended up with...

11/3,K/4 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2005 ProQuest Info&Learning. All rts. reserv.

02913944 858857211
YOU KNOW THE DRILL
DeGaspari, John
Mechanical Engineering v127n5 PP: 46-47 May 2005
ISSN: 0025-6501 JRNL CODE: GMEE
WORD COUNT: 1150

...TEXT: correct shape and length, using devices such as screws, rods, and nails to hold the **fragments** in place.

In a long **bone** such as the femur, surgeons may use a device called an **intramedullary nail** ; -which consists of a hollow metal rod that is inserted into the canal of the...

11/3,K/5 (Item 1 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01932000 SUPPLIER NUMBER: 63973503 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Bone Fracture Fixation.
FURLOW, BRYANT
Radiologic Technology, 71, 6, 543
July,
2000
PUBLICATION FORMAT: Magazine/Journal; Refereed ISSN: 0033-8397
LANGUAGE: English RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE:
Professional; Trade
WORD COUNT: 9019 LINE COUNT: 00773

... inserted into bone percutaneously, they are much easier to remove after healing than screws.(1)

Intramedullary (or IM) rods are "internal splints" placed within fractured long bones to share loading forces with healing bone...

...the internal cavity or medullary space is reamed, temporarily disrupting bone microvasculature. Reaming also deposits **bone** and marrow **pieces** at the fracture, creating an "osseous autograft"(1) that facilitates healing. By locking a rod...

...device.(1) Loading forces are rerouted by screws away from the fracture site to the **IM rod** . **IM rods** are sometimes used in spinal fractures as well as long bone injuries.

(Figure 14 ILLUSTRATION...

11/3,K/6 (Item 2 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01621455 SUPPLIER NUMBER: 18203813 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Outcomes of patients with pelvic-ring fractures managed by open reduction internal fixation.

Hakim, Renee M.; Gruen, Gary S.; Delitto, Anthony
Physical Therapy, v76, n3, p286(10)
March,
1996

PUBLICATION FORMAT: Magazine/Journal ISSN: 0031-9023 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional
WORD COUNT: 4891 LINE COUNT: 00448

... 2]

Internal fixation requires surgery to explore the pelvis, followed by reduction of the displaced **fracture** segments. Plate **fixation** of the **bone** then holds the **fragments** together. The major advantage of this approach is that the anterior and posterior portions of...

11/3,K/7 (Item 3 from file: 149)

DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01225424 SUPPLIER NUMBER: 09041379

Compartment syndrome after intramedullary nailing of the tibia.

Tischenko, George J.; Goodman, Stuart B.

Journal of Bone and Joint Surgery: American Volume, v72, n1, p41(4)

Jan,

1990

PUBLICATION FORMAT: Magazine/Journal ISSN: 0021-9355 LANGUAGE: English
RECORD TYPE: Abstract TARGET AUDIENCE: Professional

...ABSTRACT: who were closely monitored for compartment pressures during and after surgery. All patients had undergone **intramedullary nailing** of the tibia. This procedure involved reaming or enlargement of the intramedullary cavity (the inner...

...marrow), and insertion of a nail or rod into the cavity. This procedure provides good **fixation** of the **fracture** with reconstitution of the tibial length and position. The three patients who developed compartment syndrome...

...pulling pressure was applied to the leg during reduction of the fracture (realignment of the **bone fragments**) at the time of surgery, and again during reaming of the medullary cavity. Prolonged forceful...

11/3,K/8 (Item 4 from file: 149)

DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01192089 SUPPLIER NUMBER: 07691685

(USE FORMAT 7 OR 9 FOR FULL TEXT)

Ununited lower limb fractures.

Csongradi, John J.; Maloney, William J.

The Western Journal of Medicine, v150, n6, p675(6)

June,

1989

PUBLICATION FORMAT: Magazine/Journal ISSN: 0093-0415 LANGUAGE: English
RECORD TYPE: Fulltext TARGET AUDIENCE: Professional
WORD COUNT: 4061 LINE COUNT: 00439

... nonunions are the treatment method, infection, and preexisting disease. [7] Open procedures for the internal **fixation** of closed **fractures** may inhibit healing by further devitalizing the **bone**,

distracting the **fragments** , or getting them infected. Treatment methods that provide insufficient stability may inhibit union, and uncontrolled...

11/3,K/9 (Item 5 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01183817 SUPPLIER NUMBER: 07551377 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New fracture treatment allows early function and better recovery. (includes related information)
Health News, v7, n2, p1(4)
April,
1989
PUBLICATION FORMAT: Newsletter ISSN: 0821-3925 LANGUAGE: English
RECORD TYPE: Fulltext TARGET AUDIENCE: Consumer
WORD COUNT: 2550 LINE COUNT: 00239

... fractured bones by the technique now called open reduction with stable fixation. Fixing the broken **bone fragments** so that they remain absolutely stable throughout the recovery process allows the injured part to be moved without pain. Internal **fixation** of **fractures** such as a tibial (lower leg) or femoral (upper leg/hip) break offers a huge...
?

13/3,K/1 (Item 1 from file: 149)
DIALOG(R) File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01227383 SUPPLIER NUMBER: 09307129

Early operative fracture management of patients with multiple injuries.

Schein, M.; Saadia, R.

British Journal of Surgery, v77, n4, p361(2)

April,

1990

PUBLICATION FORMAT: Magazine/Journal ISSN: 0007-1323 LANGUAGE: English

RECORD TYPE: Abstract TARGET AUDIENCE: Professional

...ABSTRACT: the long bones of the body; two recent studies have shown that immediate surgery to **fix** the long-bone fracture is helpful in preventing lung complications. A frequently seen sequence of...

...resultant emergence of immune strains; inability to begin taking food by mouth leading to delayed **removal** of feeding tube and providing an additional source of infection. Increasingly the benefits of early internal **fixation** of major **fractures** are being recognized. This more aggressive management includes early mobilization of the patient, reducing dependence ...

...and elimination of the potential problems involved in a long stay in the ICU. Although **fragmentation** of care may be necessary because of the complexity of the trauma problems, one physician...

?

21/3,K/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2005 The Gale Group. All rts. reserv.

07615121 Supplier Number: 62279110 (USE FORMAT 7 FOR FULLTEXT)

Biom Implants. (Brief Article)

The BBI Newsletter, v23, n1, p21
Jan, 2000

Language: English Record Type: Fulltext

Article Type: Brief Article

Document Type: Newsletter; Trade

Word Count: 139

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...in order to obtain exact reduction and placement of the resorbable screw, allowing for complete **fracture fixation** that will dissolve over time as the bone heals. Bionx also has released its Contour...

...back to the shoulder's glenoid rim with a minimally invasive arthroscopic technique via two **portals**.

21/3,K/2 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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06542032 Supplier Number: 55363117 (USE FORMAT 7 FOR FULLTEXT)

Fusion cages adding backbone to spinal fixation device sales.

Health Industry Today, v62, n7, pNA
July, 1999

Language: English Record Type: Fulltext

Document Type: Newsletter; Professional Trade

Word Count: 1990

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...of biomaterials has brought into use a number of bioresorbable fixation devices. Internal devices include **intramedullary fixation**, hip **fixation**, plates and specialty screws, and staples, pins and wire. Bioresorbables are currently limited in applications...

...bioresorbable market consists of meniscus arrows and staples, ACL reconstruction screws, suture anchors, ligament tacks, **fracture fixation** screws and **fracture fixation** pins. Currently the products are approved primarily for: - Meniscal repair; - Shoulder repair; - **Fracture fixation**; - ACL repair. In 1998, internal fixation devices represented nearly 41% of the market and external...

...a means of treating "wobbler's syndrome." He designed a cylindrical metal cage (with drill **holes**) in which the horses' own bone was packed. His presentations at medical meetings started the...

21/3,K/3 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2005 The Gale Group. All rts. reserv.

04236854 Supplier Number: 46202167 (USE FORMAT 7 FOR FULLTEXT)

Studies on New Bone Cement Presented at Medical Conference.

Business Wire, p3050146

March 5, 1996
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 750

... provide more mechanical integrity than either allograft of intact metaphyseal bone.

Augmentation of Femoral Neck **Fracture Fixation** with an Injectable Calcium-Phosphate Bone Mineral Cement, a study conducted at the University of...

...the femoral neck (hip bone). The study showed that Norian SRS, injected into the screw **hole** and voids in the damaged human cadaveric femurs, reduced the migration of bone screws and...

21/3,K/4 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01392809
Expansion rivets for facial surgery.
CLINICA August 15, 1986 p. 17

... plates and screws during the past few years has increased the popularity of direct open **fixation** of **fractures** and osteotomies of the facial bones. Patients need no longer endure the discomfort of having...

... an implantable material such as titanium or stainless steel. Each is inserted into a predrilled **hole** and expanded to grip the sides of the **hole**.

21/3,K/5 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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0018288776 SUPPLIER NUMBER: 132674675 (USE FORMAT 7 OR 9 FOR FULL TEXT)

You know the drill: magnetic sensors in a bone implant give trauma surgeons the green light.

DeGaspari, John
Mechanical Engineering-CIME, 127, 5, 46(2)
May, 2005

ISSN: 0025-6501 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1086 LINE COUNT: 00086

... screws. The screws pierce the outer layer, or cortex, of the bone, pass through predrilled **holes** in the metal rod, and then through the cortex on the other side of the...

...the screws accurately so that they line up exactly with the predrilled holes of the **intramedullary nail**. Traditionally, surgeons drill freehand, through the bone's cortex and into the predrilled **hole** of the implant. It's a task somewhat akin to locating a stud hidden behind...

...more difficult. The surgeon must not only match the location of the tube's predrilled **hole**, but must also drill at the correct angle, so the screw passes cleanly through both predrilled **holes** in the tube and out the other side.

To accomplish this, the surgeon uses a...

...forward of the light-emitting diodes, is located directly over the predrilled holes in the **intramedullary nail**. When the LEDs glow green, the sensors are centered over the target magnet and the drill **holes** are aligned. The surgeon is then able to drill through the bone.

Carilion partnered with...

21/3,K/6 (Item 2 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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0017138700 SUPPLIER NUMBER: 118344339 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Which makes the better medical nail: Titanium or stainless steel? FEA helps determine which metal makes the best nail for repairing broken legs.(Medical industry focus)(Finite Element Analysis)

Perez, Angel

Machine Design, 76, 11, 74(3)

June 3, 2004

ISSN: 0024-9114 LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 1215 LINE COUNT: 00100

... bone model was 420 mm long and included two 4-mm-diameter holes for the **IM nails**, a simulated 10-mm-wide fracture gap and two 3.5-mm-diameter **nails** holding the **IM nails** in place. From the model of the bone, **intramedullary canal holes**, and **nails**, a mesh was generated containing a total of 17,846 elements. The mesh was examined...

21/3,K/7 (Item 1 from file: 149)

DIALOG(R)File 149:TGG Health&Wellness DB(SM)

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01978815 SUPPLIER NUMBER: 72272051 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Sequential Bilateral Total Knee Arthroplasty.

BRANSON, JILL JASPERSON; GOLDSTEIN, WAYNE M.

AORN Journal, 73, 3, 610

March,

2001

PUBLICATION FORMAT: Magazine/Journal ISSN: 0001-2092 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional

WORD COUNT: 11170 LINE COUNT: 01026

... is 45 minutes from incision to application of dressings.(27)

Complications. The use of trial **intramedullary femoral guide rods** is the suspected cause of embolization of marrow fat during BTKA procedures.(28) The **intramedullary rod** can act as a piston and force marrow contents into the pulmonary circulation.(29) The...

...can be addressed by the surgeon using vented rods and by enlarging the femoral drill **hole**. This technique allows the marrow contents to track along the rod and ooze out at the vent **hole**.(30) Tourniquet use was once thought to protect the patient from fat embolism syndrome (FES...16 inch drill. This enlarged drill hole creates the canal for passage of a long **intramedullary rod** inserted to the level of the isthmus.(42) Fluted ridges along the rod, overdrilling of the **hole** (ie, to 1 cm), and low-pressure insertion of the **intramedullary guiding rod** all allow marrow contents to escape from the **hole** rather than create a piston

effect that drives marrow elements into the circulation (Figure 7...

21/3,K/8 (Item 2 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2005 The Gale Group. All rts. reserv.

01667496 SUPPLIER NUMBER: 19088479 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Diagnosis of trochanteric bursitis versus femoral neck stress fracture.
Jones, Dina L.; Erhard, Richart E.
Physical Therapy, v77, n1, p58(10)
Jan,
1997
PUBLICATION FORMAT: Magazine/Journal ISSN: 0031-9023 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional
WORD COUNT: 5307 LINE COUNT: 00478

... is indicated with any widening of the cortical break.(10)
Tension-side fractures with any **opening** of the **fracture** require
fixation with two Knowles pins and a compression screw.(10)
Compression-side fractures on the inferior...
?

| Set | Items | Description |
|-----|---------|--|
| S1 | 969 | (INTRAMEDUL? OR INTERMEDUL? OR IM OR MEDULLAR? ? OR MEDULA- R? ?) (3N) (NAIL? OR ROD OR RODS OR FIXATION?) OR FRACTURE? (2N) - FIXATION? |
| S2 | 66711 | BONE OR BONES OR FEMUR OR FEMORAL |
| S3 | 863166 | FRAGMENT? OR PIECE? ? OR PLUG OR PLUGS OR PLUGGED OR PLUGG- ING |
| S4 | 174041 | FRACTUR? OR INJURY? OR INJURIES? OR INJURE? ? OR BROKEN |
| S5 | 2107841 | REMOV? OR (TAKE OR TOOK OR CUT OR CUTS) () OUT OR EXTRACT? |
| S6 | 2644038 | SECURE? ? OR SECURING OR RESECUR? OR SUCCOR? OR FASTEN? OR REFASTEN? OR FIX??? OR AFFIX??? |
| S7 | 2550056 | HOLE OR HOLES OR OPENING? OR APERTURE? OR PORTAL? ? |
| S8 | 382820 | IC=(A61B? OR A61F? OR A61D?) |
| S9 | 40 | S1 AND S5 AND S6 AND S7 |
| S10 | 3346 | S2(5N)S3 |
| S11 | 4 | S9 AND S10 |
| S12 | 155 | S10 (10N) (S5 AND S6) |
| S13 | 6 | S1 AND S12 |
| S14 | 3 | S13 NOT S11 |
| S15 | 40 | S9 AND S8 |
| S16 | 28 | S15 NOT (S11 OR S13 OR PY=2004:2005) |
| S17 | 60 | S1 AND S10 AND S7 |
| S18 | 26 | S17 NOT (S11 OR S13 OR S15 OR PY=2004:2005) |
| S19 | 6078 | S2(5N)S4 |
| S20 | 48 | S1 AND S19 AND S5 AND S6 |
| S21 | 16 | S20 NOT (S11 OR S13 OR S15 OR S17 OR PY=2004:2005) |

? show files

File 347:JAPIO Nov 1976-2005/Jul(Updated 051102)

(c) 2005 JPO & JAPIO

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200574

(c) 2005 Thomson Derwent

11/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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017393093 **Image available**

WPI Acc No: 2005-716754/200574

XRPX Acc No: N05-588803

An improved intra- medullary implant for internal fixation of inter-trochanteric fractures

Patent Assignee: DAVE Y A (DAVE-I)

Inventor: DAVE Y A

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|---------------|------|----------|----------|
| IN 200001125 | I3 | 20050708 | IN 2000MU1125 | A | 20001214 | 200574 B |

Priority Applications (No Type Date): IN 2000MU1125 A 20001214

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|--------------|------|--------|-------------|--------------|
| IN 200001125 | I3 | | A61F-005/00 | |

Abstract (Basic): IN 200001125 I3

NOVELTY - This invention relates to an improved intra- medullary Implant, for internal fixation of inter-trochanteric fracture neck femur, based on principle of providing simultaneously (a) collapsibility to the junction of implant & fracture site, and (b) rotational stability to the proximal fragment, while collapse is occurring. An improved intra-medullary implant comprising an intra- medullary nail part (1,2) for fixing distal fragment of upper shaft femur (10), and a cannulated sliding nail part for fixing proximal fragment of head and neck femur (9). Intra- medullary nail part comprising an upper broader part (1) of intra- medullary nail , having specially shaped openings (2) in its walls for passage of sliding nail (6) along a desired angle of 130°; and a lower narrower part (4) of intra- medullary nail for fixing upper shaft femur, and having two holes near lower end of nail for passage of locking screws (5); and an angle (3) of 8° to 10° between axis of upper broader part and lower narrower part of intra- medullary nail . A cannulated sliding nail part comprising main body of sliding nail having a special shape in cross-section, bi-flanged (6-a) or tetra-flanged (6-b), or diamond shaped (6-c) or E-shaped (6-d), so as to provide rotational stability to the proximal fragment of head neck femur ; and passing through reciprocally shaped openings in upper broader part of intra- medullary nail forming a sliding junction; and an upper capital end (7) of sliding nail, having a round margin and going to head femur up to subchondral bone; and a lower trochanteric end (8) of sliding nail, which is slightly broad and flat for insertion and is cannulated and threaded for removal . Image 5/5

DwgNo 5/5

Title Terms: IMPROVE; INTRA; MEDULLARY; IMPLANT; INTERNAL; FIX ; INTER; TROCHANTER; FRACTURE

Derwent Class: P32

International Patent Class (Main): A61F-005/00

International Patent Class (Additional): A61F-002/00; A61F-002/30

File Segment: EngPI

11/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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017021742 **Image available**

WPI Acc No: 2005-346059/200535

XRPX Acc No: N05-282898

Fractured bone setting method for surgical intramedullary implant, involves succoring removed bone fragment to proximal end of fractured femur after inserting proximal locking screw

Patent Assignee: MANDERSON E L (MAND-I)

Inventor: MANDERSON E L

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|---------------|------|----------|------------|
| US 20050107792 | A1 | 20050519 | US 2003706922 | A | 20031114 | 200535 B |

Priority Applications (No Type Date): US 2003706922 A 20031114

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|----------------|------|-----|----|-------------|--------------|
| US 20050107792 | A1 | | 27 | A61B-017/58 | |

Abstract (Basic): US 20050107792 A1

NOVELTY - The method involves reaming the main and expanded cavities of a fractured bone e.g. femur (210). An **intramedullary nail** extends from the expanded cavity towards the main cavity. A **bone fragment** is **removed** from the proximal end (212) of a fractured femur in order to insert a proximal locking screw. The **removed bone fragment** is **succored** to the proximal end of the fractured femur.

USE - For setting fractured bone during surgical intramedullary implant.

ADVANTAGE - Eliminates use of jig for inserting proximal locking screw in exposed **hole**. Simplifies locking **fixation** of **fractured** bone segments.

DESCRIPTION OF DRAWING(S) - The figure shows the isometric view of the fractured femur.

Incision (200)

Femur (210)

Proximal end (212)

Trochanter (214)

Neck (216)

pp; 27 DwgNo 2a/10

Title Terms: FRACTURE; BONE; SET; METHOD; SURGICAL; INTRAMEDULLARY; IMPLANT ; **REMOVE** ; BONE; FRAGMENT; PROXIMITY; END; FRACTURE; FEMUR; AFTER; INSERT; PROXIMITY; LOCK; SCREW

Derwent Class: P31

International Patent Class (Main): A61B-017/58

International Patent Class (Additional): A61B-017/56

File Segment: EngPI

11/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011638870 **Image available**

WPI Acc No: 1998-055778/199806

XRAM Acc No: C98-019200

XRPX Acc No: N98-044231

Endoprosthetic medullar rod extraction instrument - includes deformable strand for gripping projecting rod portion

Patent Assignee: SFERIC SARL (SFER-N)

Inventor: COUSIN T; GRIMARD J C

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| FR 2749501 | A1 | 19971212 | FR 967141 | A | 19960605 | 199806 B |

Priority Applications (No Type Date): FR 967141 A 19960605

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| FR 2749501 | A1 | | 14 | A61F-002/46 | |

Abstract (Basic): FR 2749501 A

Instrument for **extracting** permanent or trial endoprosthetic **medullar rods** from **medullar** channels comprises an optionally curved, rigid, force transmission element (6), a **fixed** or adjustable force applicator (10) and a locking system (2, 4) for **fixing** the instrument to the **medullar rod**. The novelty is that the instrument has a strong and deformable, optionally multi-stranded, thread-like body (1), e.g. a composite or textile braid, cable or chain, to permit seizure and coupling under tension of the **medullar rod** portion projecting from the bone. Preferably, the end of the thread-like body is in the form of a single sliding loop (e.g. a slip-knot) of adjustable **opening** diameter or a two-stranded U-shaped loop (2) of adjustable **opening** diameter.

USE - The instrument is useful in orthopaedic surgery especially for hip bone prosthesis **extraction**.

ADVANTAGE - Provision of the thread-like body in the instrument permits gripping of **medullar rods** of any type (e.g. one- **piece**, modular, **femoral**, humeral), of any shape (spherical or hemispherical head and cylindrical, conical or prismatic neck) and of any dimensions (from a few mm to several cm), without the need for disassembling modular **medullar rods**.

Dwg.1/10

Title Terms: ENDOPROTHESIS; MEDULLARY; ROD; **EXTRACT**; INSTRUMENT; DEFORM; STRAND; GRIP; PROJECT; ROD; PORTION

Derwent Class: D22; P32

International Patent Class (Main): A61F-002/46

File Segment: CPI; EngPI

11/5/4 (Item 4 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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007866990 **Image available**

WPI Acc No: 1989-132102/198918

XRPX Acc No: N89-100604

Prosthetic implant for toe or finger joint - comprises rod and washer of stainless steel, with rod inserted through bones medullary channels

Patent Assignee: BAROUK L (BARO-I); BAROUK L S (BARO-I)

Inventor: BAROUK L; BAROUK L S

Number of Countries: 015 Number of Patents: 007

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| EP 314593 | A | 19890503 | EP 88450037 | A | 19881026 | 198918 B |
| FR 2622100 | A | 19890428 | | | | 198924 |
| US 4969909 | A | 19901113 | US 88263328 | A | 19881027 | 199048 |
| EP 314593 | B | 19910814 | | | | 199133 |
| DE 3864236 | G | 19910919 | | | | 199139 |
| CA 1296838 | C | 19920310 | | | | 199216 |
| ES 2025811 | T3 | 19920401 | EP 88450037 | A | 19881026 | 199226 |

Priority Applications (No Type Date): FR 8715024 A 19871027

Cited Patents: DE 8533557; EP 34912; US 3809075

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

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|-----------|---|---|---|--|--|
| EP 314593 | A | F | 6 | | |
|-----------|---|---|---|--|--|

Designated States (Regional): AT BE CH DE ES GB GR IT LI LU NL SE

| | | | | | |
|-----------|---|--|--|--|--|
| EP 314593 | B | | | | |
|-----------|---|--|--|--|--|

Designated States (Regional): AT BE CH DE ES GB GR IT LI LU NL SE

| | | | | | |
|------------|----|--|--|-------------|---------------------------|
| ES 2025811 | T3 | | | A61F-002/42 | Based on patent EP 314593 |
|------------|----|--|--|-------------|---------------------------|

Abstract (Basic): EP 314593 A

The prosthetic implant, for temporary **fixing** of a toe or finger joint, consists of a dished washer (1) with a central **hole** and a rod (3) with a pointed tip which can pass through it. The washer is inserted between two joint bones, and the rod is inserted through the medullary channels of the adjacent bones and through the washer, holding them all together.

Both the rod and the washer are made of stainless steel, and they can be fitted with or without surgical cement.

ADVANTAGE - Precise positioning of joint bones after orthopaedic surgery.

4/4

Title Terms: PROSTHESIS; IMPLANT; TOE; FINGER; JOINT; COMPRISE; ROD; WASHER ; STAINLESS; STEEL; ROD; INSERT; THROUGH; BONE; MEDULLARY; CHANNEL

Derwent Class: P31; P32

International Patent Class (Main): A61F-002/42

International Patent Class (Additional): A61B-017/56

File Segment: EngPI

?

14/5/1 (Item 1 from file: 350)
DIALOG(R) File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013192647 **Image available**

WPI Acc No: 2000-364520/200031

XRPX Acc No: N00-272777

Internal cord fixing of bone fragments uses tensioning of flexible cord to reduce fracture and minimize mismatching

Patent Assignee: DAOS LTD (DAOS-N); DAKIN E B (DAKI-I); LIPPINCOTT A L (LIPP-I)

Inventor: DAKIN E B; LIPPINCOTT A L

Number of Countries: 086 Number of Patents: 007

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|---------------|------|----------|----------|
| WO 200018313 | A1 | 20000406 | WO 99US22387 | A | 19990927 | 200031 B |
| AU 9964022 | A | 20000417 | AU 9964022 | A | 19990927 | 200035 |
| EP 1117338 | A1 | 20010725 | EP 99951617 | A | 19990927 | 200143 |
| | | | WO 99US22387 | A | 19990927 | |
| US 6368326 | B1 | 20020409 | US 98162036 | A | 19980928 | 200227 |
| US 20020188297 | A1 | 20021212 | US 98162036 | A | 19980928 | 200301 |
| | | | US 2002115446 | A | 20020402 | |
| AU 767346 | B | 20031106 | AU 9964022 | A | 19990927 | 200401 |
| US 20040127907 | A1 | 20040701 | US 98162036 | A | 19980928 | 200444 |
| | | | US 2002115446 | A | 20020402 | |
| | | | US 2003629007 | A | 20030729 | |

Priority Applications (No Type Date): US 98162036 A 19980928; US 2002115446 A 20020402

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200018313 A1 E 52 A61B-017/86

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9964022 A Based on patent WO 200018313

EP 1117338 A1 E A61B-017/86 Based on patent WO 200018313

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

US 6368326 B1 A61B-017/58

US 20020188297 A1 A61B-017/58 Cont of application US 98162036

Cont of patent US 6368326

AU 767346 B A61B-017/86 Previous Publ. patent AU 9964022

Based on patent WO 200018313

US 20040127907 A1 A61B-017/56 Cont of application US 98162036

CIP of application US 2002115446

Cont of patent US 6368326

Abstract (Basic): WO 200018313 A1

NOVELTY - Screw (20) is fitted to cortical bone portion (12) of fragment (18). Cord (22) is attached to the screw and crosses to another screw (24) in the other fragment (16). Fastener (24) has a bore through which the cord passes. The cord is tensioned (26) and then locked (28). Various internal and external fixtures are described, as is a tool for mounting internal fixtures.

USE - For fixing bone fragments or a bone prosthesis to a bone.

ADVANTAGE - Through careful placement of the fasteners, the desired

force vectors may be obtained to pull two or more bone fragments together and effect proper union of the surfaces. Placement of the fasteners is simple and does not require tissue division or removal of supportive tissue.

DESCRIPTION OF DRAWING(S) - The diagram shows a partial cross sectional view of a fractured bone to which a cord **fracture fixation** device is being applied to reduce the fracture.

Cortical bone portion (12)
Bone fragments (16, 18)
Screw-type internal fastener (20)
Flexible cord (22)
Screw-type fastener (24)
Hand-operated cord tensioning instrument (26)
Locking device (28)
pp; 52 DwgNo 1/14

Title Terms: INTERNAL; CORD; FIX; BONE; FRAGMENT; TENSION; FLEXIBLE; CORD;
REDUCE; FRACTURE; MINIMISE; MISMATCH

Derwent Class: P31

International Patent Class (Main): A61B-017/56; A61B-017/58; A61B-017/86

International Patent Class (Additional): A61B-017/68

File Segment: EngPI

14/5/2 (Item 2 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008298534 **Image available**

WPI Acc No: 1990-185535/199024

XRPX Acc No: N90-144329

**Reamer guide for intramedullary nail placement - has protected
channel shielding soft tissue from contact with reamer tool**

Patent Assignee: MCCONNELL B E (MCCO-I)

Inventor: MCCONNELL B E; MCCONNELL J C

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4927424 | A | 19900522 | US 88224451 | A | 19880726 | 199024 B |

Priority Applications (No Type Date): US 88224451 A 19880726

Abstract (Basic): US 4927424 A

The guide creates a protected channel through soft tissue which shields the soft tissue from contact by a reaming tool and prevents soft tissue from interfering with a reaming procedure. The guide collects marrow and **bone fragments removed** during reaming to prevent their dispersion in soft tissue.

Bone fragments and marrow collected on the guide are reintroduced into the canal for grafting. The device includes an elongated chute having a concave, arcuate segment terminating at a spooned end adapted to be mounted controllably spaced in alignment with the pilot bore. An elongated pin secured to the backside of the chute extends beyond the spooned end of the chute for insertion into the proximate bone area. Both guide apparatus and method of utilizing the guide apparatus are disclosed.

USE - For orthopaedic surgery provides locational guidance for insertion of an orthopaedic nail through a pilot bore into the intramedullary canal of a fractured bone.

Dwg.2/10

Title Terms: REAM; GUIDE; INTRAMEDULLARY; NAIL; PLACE; PROTECT; CHANNEL;
SHIELD; SOFT; TISSUE; CONTACT; REAM; TOOL

Derwent Class: P31
International Patent Class (Additional): A61B-017/56
File Segment: EngPI

14/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007788190 **Image available**
WPI Acc No: 1989-053302/198907
XRPX Acc No: N89-040602

**Tool for setting fractured bones - has T-shaped handle removably held
to cylindrical rod for manipulating bone fragments**

Patent Assignee: AUDELL R A (AUDE-I)
Inventor: AUDELL R A
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4800873 | A | 19890131 | US 8791110 | A | 19870831 | 198907 B |

Priority Applications (No Type Date): US 8791110 A 19870831

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|----------|--------------|
| US 4800873 | A | | 6 | | |

Abstract (Basic): US 4800873 A

The tool used for the setting of fractured bones comprises an elongated, cylindrical rod having an axial bore. A T-shaped handle is removably fixed to one end of the rod to permit manual manipulation.

In the setting procedure the elongated rod is inserted into the medullary canal after it has been reamed. Manual manipulation of the rod aligns the fragments of the bone. After the bone fragments have been aligned a guide wire is passed through the bore of the rod and the rod is removed, leaving the guide wire across the fracture.

USE - Tool for setting fractured bones by a closed **medullary nailing** procedure.

2/8

Title Terms: TOOL; SET; FRACTURE; BONE; T-SHAPED; HANDLE; REMOVE; HELD;
CYLINDER; ROD; MANIPULATE; BONE; FRAGMENT

Derwent Class: P32
International Patent Class (Additional): A61F-005/04
File Segment: EngPI
?

16/5/5 (Item 3 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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014996779 **Image available**
WPI Acc No: 2003-057294/200305
Related WPI Acc No: 2001-032094
XRPX Acc No: N03-044339

Intramedullary nail for repairing long-bone fractures, has proximal,
distal ends with fastener receiving areas, which provide rigid
anchoring location relative to flexible central section

Patent Assignee: PHILLIPS J (PHIL-I)

Inventor: PHILLIPS J

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|----------------|------|----------|----------|
| US 20020111629 | A1 | 20020815 | US 99321369 | A | 19990527 | 200305 B |
| | | | WO 2000US14840 | A | 20000526 | |
| | | | US 2000252536 | P | 20001122 | |
| | | | US 2001990243 | A | 20011121 | |

Priority Applications (No Type Date): US 2000252536 P 20001122; US 99321369
A 19990527; WO 2000US14840 A 20000526; US 2001990243 A 20011121

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|----------------|------|-----|-------------|----------|--|
| US 20020111629 | A1 | 17 | A61B-017/58 | | CIP of application US 99321369 CIP of application WO 2000US14840 Provisional application US 2000252536 |

Abstract (Basic): US 20020111629 A1

NOVELTY - The nail comprises **fastener** receiving areas (30,28) of greater cross-sectional area than a central section (24), at its two end sections (32,34). Each **fastener** receiving area includes a **hole** extending transverse to a longitudinal axis (54) of the nail, for receiving a cross **fastener** adapted to **secure** to the bone.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) a method of **fixing** a fracture in a long-bone of a patient; and
- (2) an **intramedullary nailing** system for **fixing** fracture in a long-bone of a patient.

USE - For insertion within intramedullary canal of a long-bone, for repairing long-bone fractures in children.

ADVANTAGE - The side to which the proximal and distal end sections are bent depends on whether the nail will be used in a right or left femur and also allows easier insertion of the nail across the fracture. The bend of the distal end section allows for easier insertion of nail from an insertion point extending through the greater trochanter of the femur. The bend of the proximal end section ensures that the proximal tip is presented directly at the insertion point, after **fixation** of the **fracture** so that the proximal tip is easily accessed for **removal** of the nail upon healing of the bone. The central section provides flexibility for faster healing of fracture.

DESCRIPTION OF DRAWING(S) - The figure shows a side elevational view of the **intramedullary nail** shown in the anterior-posterior plane.

Central section (24)

Fastener receiving areas (28,30)

Proximal and distal end sections (32,34)

Longitudinal axis (54)
pp; 17 DwgNo 2/14
Title Terms: INTRAMEDULLARY; NAIL; REPAIR; LONG; BONE; FRACTURE; PROXIMITY;
DISTAL; END; **FASTEN** ; RECEIVE; AREA; RIGID; ANCHOR; LOCATE; RELATIVE;
FLEXIBLE; CENTRAL; SECTION
Derwent Class: P31
International Patent Class (Main): **A61B-017/58**
File Segment: EngPI

16/5/9 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013214467 **Image available**
WPI Acc No: 2000-386341/200033
XRAM Acc No: C00-117106
XRPX Acc No: N00-289164

Intramedullary nail for bone fracture treatment, has bio-absorbable
guide integrally secured in nail hole such that entry opening of
guide cavity is within nail and exit opening at securing hole

Patent Assignee: GEN ORTHOPEDICS (GEOR-N)

Inventor: SPIEVACK A R

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 6053918 | A | 20000425 | US 94328443 | A | 19941025 | 200033 B |

Priority Applications (No Type Date): US 94328443 A 19941025

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| US 6053918 | A | 21 | A61B-017/72 | |

Abstract (Basic): US 6053918 A

NOVELTY - **Intramedullary nail** for bone fracture treatment.

DETAILED DESCRIPTION - An **intramedullary nail fastened** to a bone using a cannulated screw, has a guide integrally **secured** to a **hole** in the nail. The guide has a cavity with an entry **opening** within the nail and exit **opening** at **securing hole**. The guide is fabricated from bio-absorbable material containing polyglycolic acid.

The guide cavity is of funnel shaped from entry **opening** to exit **opening**. The guide is disposed at the distal end of nail that is **removably** coupled to nail main portion. The guide directs a flexible drill shaft into the **securing hole**.

INDEPENDENT CLAIMS are also included for the following:

(i) **intramedullary nail fastening** apparatus which includes a drill shaft within the nail. A **fastener** is guided by the drill shaft from outside the body of the patient to the **securing hole** of the nail through the cortex of the bone. The drill shaft is flexible at specific portion. The guide includes a positioner to register the guide to the **securing hole**. A manual control is provided for manual operation and manipulation of the guide within the nail.

(ii) **intramedullary nail fastening** method which involves directing drill shaft into the guide. The **fastener** is also guided along the drill shaft. The guide is manually controlled and then the fitting of cannulated screw around the drill shaft is carried out.

USE - For treatment of bone fracture such as femur bone in which the nail is **fastened** to the fractured bone using the **fastening** apparatus.

ADVANTAGE - As the guide is made of bioabsorbable material

containing polyglycolic acid, the guide is not harmful to the patient and hence can be left in the body.

DESCRIPTION OF DRAWING(S) - The figure shows cross sectional view of cannulated screw engaging the bone.

Drill shaft (2)

Bone (4)

Cannulated screw (6)

Guide (10a)

Nail main portion (31)

Hole (34A)

pp; 21 DwgNo 7/14

Title Terms: INTRAMEDULLARY; NAIL; BONE; FRACTURE; TREAT; BIO; ABSORB;
GUIDE; INTEGRAL; **SECURE** ; NAIL; **HOLE** ; ENTER; OPEN; GUIDE; CAVITY; NAIL
; EXIT; OPEN; **SECURE** ; **HOLE**

Derwent Class: A96; D22; P31

International Patent Class (Main): **A61B-017/72**

International Patent Class (Additional): **A61B-017/17**

File Segment: CPI; EngPI

16/5/11 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012865954 **Image available**

WPI Acc No: 2000-037787/200003

XRPX Acc No: N00-028453

Bone screw device for orthopedic surgery

Patent Assignee: SMITH & NEPHEW INC (SMIN); SMITH & NEPHEW LTD (SMIN)

Inventor: HOLLAND D D; JAMES A H; PEPPER J P; SANDERS R; PEPPER J R

Number of Countries: 085 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---------------|------|----------|---------------|------|----------|----------|
| US 5989255 | A | 19991123 | US 98130271 | A | 19980806 | 200003 B |
| WO 200007513 | A1 | 20000217 | WO 99US17337 | A | 19990730 | 200017 |
| AU 9952465 | A | 20000228 | AU 9952465 | A | 19990730 | 200030 |
| EP 1100391 | A1 | 20010523 | EP 99937679 | A | 19990730 | 200130 |
| | | | WO 99US17337 | A | 19990730 | |
| JP 2002522109 | W | 20020723 | WO 99US17337 | A | 19990730 | 200263 |
| | | | JP 2000563200 | A | 19990730 | |
| AU 764857 | B | 20030904 | AU 9952465 | A | 19990730 | 200368 |

Priority Applications (No Type Date): US 98130271 A 19980806

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|-----------|------|--------|----------|--------------|
|-----------|------|--------|----------|--------------|

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|------------|---|----|-------------|--|
| US 5989255 | A | 11 | A61B-017/56 | |
|------------|---|----|-------------|--|

| | | | | |
|--------------|------|--|-------------|--|
| WO 200007513 | A1 E | | A61B-017/86 | |
|--------------|------|--|-------------|--|

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU
CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

| | | | | |
|------------|---|--|-------------|------------------------------|
| AU 9952465 | A | | A61B-017/86 | Based on patent WO 200007513 |
|------------|---|--|-------------|------------------------------|

| | | | | |
|------------|------|--|-------------|------------------------------|
| EP 1100391 | A1 E | | A61B-017/86 | Based on patent WO 200007513 |
|------------|------|--|-------------|------------------------------|

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

| | | | | |
|---------------|---|----|-------------|------------------------------|
| JP 2002522109 | W | 29 | A61B-017/58 | Based on patent WO 200007513 |
|---------------|---|----|-------------|------------------------------|

| | | | | |
|-----------|---|--|-------------|----------------------------------|
| AU 764857 | B | | A61B-017/86 | Previous Publ. patent AU 9952465 |
|-----------|---|--|-------------|----------------------------------|

Based on patent WO 200007513

Abstract (Basic): US 5989255 A

NOVELTY - An externally threaded elongated shank (13) is surgically implanted into a patient's bone tissue (11) using drill chuck **fixed** at flat surfaces (17) at proximal end (14). The head (25) and washer with respective internally threaded portions engage the external threads of the shank during sliding movements.

DETAILED DESCRIPTION - The head (25) has a central **opening** (27) that fits over and conforms to the outer surface of the shank and slides towards the surface (12) of bone tissue (11) for enabling the **removal** of the shank protruding outside the surface (12) to complete implantation. The washer allows the shank movements in one direction towards the patient's bone tissue but disallows the sliding movement in opposite direction. An INDEPENDENT CLAIM is also included for method of implanting a bone screw through a patient's bone tissue.

USE - Used in orthopaedic surgery for getting fitted into patient's bone tissue such as **intermedullary nails**.

ADVANTAGE - The bone screw is used for bone tissue of any size and **removing** shank in cut to complete implantation. Enables movement in one direction towards patient's bone tissue, but disallows sliding movement in opposite direction, thus preventing movement of head in one direction.

DESCRIPTION OF DRAWING(S) - The figure shows the bone screw device.

Patient's bone tissue (11)

Surface (12)

Shank (13)

Proximal end (14)

Flat surface (17)

Head (25)

Central **opening** (27)

pp; 11 DwgNo 2/21

Title Terms: BONE; SCREW; DEVICE; ORTHOPAEDIC; SURGICAL

Derwent Class: P31

International Patent Class (Main): **A61B-017/56** ; **A61B-017/58** ;

A61B-017/86

File Segment: EngPI

16/5/14 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

011341601 ****Image available****

WPI Acc No: 1997-319506/199729

XRPX Acc No: N97-264512

Fixation plate for fixing position of fractured bone - has first apertures for threaded fasteners, and second apertures adapted to receive tack for temporary attachment of fixation plate to bone

Patent Assignee: HAUSMAN M R (HAUS-I); HAUSMAN M (HAUS-I)

Inventor: HAUSMAN M R; HAUSMAN M

Number of Countries: 021 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---------------|------|----------|--------------|------|----------|--------|---|
| WO 9720514 | A1 | 19970612 | WO 96US19540 | A | 19961209 | 199729 | B |
| AU 9711302 | A | 19970627 | AU 9711302 | A | 19961209 | 199742 | |
| US 5676667 | A | 19971014 | US 95569694 | A | 19951208 | 199747 | |
| EP 915683 | A1 | 19990519 | EP 96942156 | A | 19961209 | 199924 | |
| | | | WO 96US19540 | A | 19961209 | | |
| AU 711026 | B | 19991007 | AU 9711302 | A | 19961209 | 199954 | |
| JP 2000501627 | W | 20000215 | WO 96US19540 | A | 19961209 | 200019 | |

JP 97521484 A 19961209

Priority Applications (No Type Date): US 95569694 A 19951208

Cited Patents: US 5433719; US 5527311

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9720514 A1 E 22 A61B-017/80

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC
NL PT SE

JP 2000501627 W 27 A61B-017/58 Based on patent WO 9720514

AU 9711302 A A61B-017/80 Based on patent WO 9720514

US 5676667 A 9 A61B-017/58

EP 915683 A1 E A61B-017/80 Based on patent WO 9720514

Designated States (Regional): DE FR GB

AU 711026 B A61B-017/80 Previous Publ. patent AU 9711302

Based on patent WO 9720514

Abstract (Basic): WO 9720514 A

The fixation plate includes an elongated rigid plate (10) having a number of first **apertures** (12) spaced along the length of the plate. The first **apertures** are arranged and sized to receive threaded **fasteners** for **fastening** the plate to the bone (52,54) on both sides of the fracture (50).

The fixation plate also includes a number of second **apertures** (22) spaced along the length of the plate. The second **apertures**, which are smaller than the first **apertures**, are arranged and sized to receive tacks (30) to temporarily attach the plate to the bone on both sides of the fracture.

ADVANTAGE - Permits repositioning of plate and bones after e.g. X-rays without needing disruption of entire assembly.

Dwg.3/4

Title Terms: **FIX** ; PLATE; **FIX** ; POSITION; FRACTURE; BONE; FIRST;
APERTURE ; THREAD; **FASTEN** ; SECOND; **APERTURE** ; ADAPT; RECEIVE; TACK;
TEMPORARY; ATTACH; **FIX** ; PLATE; BONE

Derwent Class: P31

International Patent Class (Main): **A61B-017/58** ; **A61B-017/80**

File Segment: EngPI

16/5/15 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

010601894 **Image available**

WPI Acc No: 1996-098847/199611

XRPX Acc No: N96-082499

Expanding medullary osteosynthesis rod - comprises core with lengthwise grooves for flexible auxiliary rods with curved and chamfered tips, and holes for fixing screws

Patent Assignee: BELLON J (BELL-I)

Inventor: BELLON J

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| FR 2722395 | A1 | 19960119 | FR 948954 | A | 19940718 | 199611 B |

Priority Applications (No Type Date): FR 948954 A 19940718

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
FR 2722395 A1 10 A61B-017/72

Abstract (Basic): FR 2722395 A

The rod consists of a central core (1) with a pointed end (3) and one or more lengthwise grooves (4), each containing an auxiliary rod (5) which is substantially thinner and more flexible than the core. Each auxiliary rod has a straight rear section (7) for engaging with the core, and a curved front end with a chamfered tip (9) which anchors in the bone.

The core has a **hole** (10) through its rear end to facilitate **extraction** after consolidation, and a number of other **holes** (11) for **fixing** screws. The number of grooves and auxiliary rods is variable, and the auxiliary rods have markings to indicate their positions.

USE/ADVANTAGE - Long bone osteosynthesis. Combines rigidity and flexibility required for expansion.

Dwg.3/6

Title Terms: EXPAND; MEDULLARY; OSTEOSYNTHESIS; ROD; COMPRISE; CORE;
LENGTHWISE; GROOVE; FLEXIBLE; AUXILIARY; ROD; CURVE; CHAMFER; TIP; **HOLE**
; **FIX** ; SCREW

Derwent Class: P31

International Patent Class (Main): **A61B-017/72**

File Segment: EngPI

16/5/17 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

010298299 **Image available**

WPI Acc No: 1995-199559/199526

Related WPI Acc No: 1997-424085

XRPX Acc No: N95-156791

Assembly for preparing planar surface on distal femur prior to implantation of knee prosthesis - has plate with opening for exposing condyles and guide having central aperture used to align plate and milling guide having two bores

Patent Assignee: PFIZER HOSPITAL PROD GROUP INC (PFIZ)

Inventor: AXELSON S L

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5417695 | A | 19950523 | US 92920081 | A | 19920727 | 199526 B |

Priority Applications (No Type Date): US 92920081 A 19920727

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 5417695 A 11 A61B-017/00

Abstract (Basic): US 5417695 A

A femoral plate is provided with an **opening** for exposing both condyles of the femur. A guide with a central **aperture** is used to align the femoral plate on the distal femur. The guide is releasably **secured** to the femoral plate and an **intramedullary** guide **rod** is placed through the **aperture** therein and into the intramedullary canal of the femur.

After alignment with the intramedullary canal, the femoral plate is pinned to the femur and the rod and guide are **removed**. A milling guide having two bores, one adjacent each condyle, is then placed on the femoral plate and an end mill is used to mill a planar surface on

at least one of the condyles.

ADVANTAGE - Is simple in design, simple to perform and therefore saves time during surgery.

Dwg.1/6

Title Terms: ASSEMBLE; PREPARATION; PLANE; SURFACE; DISTAL; FEMUR; PRIOR; IMPLANT; KNEE; PROSTHESIS; PLATE; OPEN; EXPOSE; CONDYLE; GUIDE; CENTRAL; **APERTURE** ; ALIGN; PLATE; MILL; GUIDE; TWO; BORE

Derwent Class: P31

International Patent Class (Main): **A61B-017/00**

International Patent Class (Additional): **A61B-017/56**

File Segment: EngPI

16/5/20 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009762827 **Image available**

WPI Acc No: 1994-042678/199405

Related WPI Acc No: 1994-103201

XRPX Acc No: N94-033833

Device for determining centering alignment of blind holes of installed intramedullary nail - has frame supporting proximal end of nail from outside limb and includes threaded bar which can be screwed into bone

Patent Assignee: ORTHOFIX SRL (ORTH-N)

Inventor: FACCIOLO G; ROSSI S

Number of Countries: 002 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5281224 | A | 19940125 | US 93618 | A | 19930105 | 199405 B |
| CA 2106531 | A | 19940323 | CA 2106531 | A | 19930920 | 199423 |
| CA 2106531 | C | 19960716 | CA 2106531 | A | 19930920 | 199639 |

Priority Applications (No Type Date): US 93618 A 19930105; IT 92VR81 A 19920922

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| US 5281224 | A | | 10 | A61B-017/56 | |
| CA 2106531 | A | | | A61B-017/56 | |
| CA 2106531 | C | | | A61B-017/88 | |

Abstract (Basic): US 5281224 A

A jig is detachably **secured** to the proximal end of an installed **intramedullary nail** having a transverse bolt **hole** near the distal end of the nail. The jig comprises an offsetting arm which so mounts an elongate template as to be movable in a geometric plane parallel to the nail. A guide bore near the distal end of the templates is on an axis perpendicular to the geometric plane. When the jig is chucked to the nail, the axis of the guide bore of the template is parallel to the axis of the bolt **hole** of the nail, and both the guide-bore axis and the bolt- **hole** axis are at identical distance from the offsetting arm.

The distal end of the template is adapted to **removably** mount a metal-detector establishing a magnet-field about a directional axis, such that the metal-detector can be selectively moved or positioned on one and then the other side of a central position in which the template is strictly parallel to the nail. Template positions noted for equal detector signals on opposite sides of the central position enable determination of the central position and therefore the location at which the template guide bore is in axial alignment with the bolt **hole** of the nail.

USE - Esp. for a bone-surgery operation on a fractured limb.
 Dwg.1/6c
 Title Terms: DEVICE; DETERMINE; CENTRE; ALIGN; BLIND; **HOLE** ; INSTALLATION;
 INTRAMEDULLARY; NAIL; FRAME; SUPPORT; PROXIMITY; END; NAIL; LIMB; THREAD;
 BAR; CAN; SCREW; BONE
 Derwent Class: P31; S05
 International Patent Class (Main): **A61B-017/56 ; A61B-017/88**
 File Segment: EPI; EngPI

16/5/25 (Item 23 from file: 350)
 DIALOG(R)File 350:Derwent WPIX
 (c) 2005 Thomson Derwent. All rts. reserv.

008353806 **Image available**
 WPI Acc No: 1990-240807/199032
 XRPX Acc No: N90-186866

Bone fracture fixing appts. - uses intramedullary nail with proximal fixation tab requiring single incision
 Patent Assignee: HOWMEDICA INC (HOWN); PFIZER HOSPITAL PROD GROUP INC (PFIZ)

Inventor: CHAPMAN M W; EDWARDS C C; MEARS D C
 Number of Countries: 021 Number of Patents: 017
 Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 381462 | A | 19900808 | EP 90300975 | A | 19900131 | 199032 B |
| AU 9048979 | A | 19900816 | | | | 199040 |
| NO 9000485 | A | 19900827 | | | | 199040 |
| CA 2008999 | A | 19900802 | | | | 199042 |
| ZA 9000759 | A | 19911030 | | | | 199148 |
| US 5066296 | A | 19911119 | US 89305840 | A | 19890202 | 199149 |
| AU 9189734 | A | 19920206 | | | | 199216 |
| AU 9189750 | A | 19920213 | | | | 199217 |
| AU 9217004 | A | 19920716 | AU 9217004 | A | 19920519 | 199236 |
| | | | AU 9048979 | A | 19900000 | |
| US 5201735 | A | 19930413 | US 89305840 | A | 19890202 | 199317 |
| | | | US 91664160 | A | 19910304 | |
| AU 654159 | B | 19941027 | AU 9189750 | A | 19911216 | 199444 |
| | | | AU 9048979 | A | 19900000 | |
| EP 381462 | B1 | 19941123 | EP 90300975 | A | 19900131 | 199445 |
| DE 69014215 | E | 19950105 | DE 614215 | A | 19900131 | 199506 |
| | | | EP 90300975 | A | 19900131 | |
| ES 2063913 | T3 | 19950116 | EP 90300975 | A | 19900131 | 199509 |
| IL 93250 | A | 19950124 | IL 93250 | A | 19900201 | 199510 |
| CA 2008999 | C | 19950307 | CA 2008999 | A | 19900131 | 199516 |
| IE 65716 | B | 19951101 | IE 90362 | A | 19900131 | 199605 |

Priority Applications (No Type Date): US 89305840 A 19890202; US 91664160 A 19910304

Cited Patents: A3...9149; DE 7115713; DE 8533134; EP 91499; NoSR.Pub

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

| | | | | | |
|--|---|--|--|--|--|
| EP 381462 | A | | | | |
| Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE | | | | | |

| | | | | | |
|------------|---|--|--|-------------|-------------------------------|
| AU 9217004 | A | | | A61B-017/58 | Div ex application AU 9048979 |
|------------|---|--|--|-------------|-------------------------------|

| | | | | | |
|------------|---|----|--|-------------|--------------------------------|
| US 5201735 | A | 13 | | A61F-005/04 | Div ex application US 89305840 |
| | | | | | Div ex patent US 5066296 |

| | | | | | |
|-----------|---|--|--|-------------|-------------------------------|
| AU 654159 | B | | | A61B-017/58 | Div ex application AU 9048979 |
|-----------|---|--|--|-------------|-------------------------------|

Previous Publ. patent AU 9189750

| | | | | | |
|-----------|------|---|--|-------------|--|
| EP 381462 | B1 E | 8 | | A61B-017/58 | |
|-----------|------|---|--|-------------|--|

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE

| | | | |
|-------------|----|-------------|---------------------------|
| DE 69014215 | E | A61B-017/58 | Based on patent EP 381462 |
| ES 2063913 | T3 | A61B-017/58 | Based on patent EP 381462 |
| IL 93250 | A | A61B-017/58 | |
| CA 2008999 | C | A61B-017/58 | |
| IE 65716 | B | A61B-017/58 | |

Abstract (Basic): EP 381462 A

An **intramedullary nail** (10) for **fixing** a bone fracture has a proximal end (16), and a distal, tapered end (18) for insertion into the intramedullary canal of a bone. A tab (14) to lock the nail in place is **fastened** to its proximal end by an axial bolt (22). A screw may be passed through an **opening** on either side (30) of the tab to **secure** it to the bone.

A second apparatus for **fixing** a fracture has two plates which are shaped to fit the outer bone surface of each part of the bone, and have **holes** for screws to **secure** them to the bone. One plate has a C-shaped channel at one end which engages around an end of the other.

ADVANTAGE - One incision is necessary to insert and **secure** the nail. The plates allow optional axial movement. (12pp Dwg.No.1/16)

Title Terms: BONE; FRACTURE; **FIX** ; APPARATUS; INTRAMEDULLARY; NAIL;

PROXIMITY; **FIX** ; TAB; REQUIRE; SINGLE; INCISION

Derwent Class: P31; P32

International Patent Class (Main): **A61B-017/58** ; **A61F-005/04**

File Segment: EngPI

16/5/26 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008149446 **Image available**

WPI Acc No: 1990-036447/199005

XRPX Acc No: N90-027996

Intramedullary rod triggering device - for guiding drilling of distal screw passages in femur of patient during installations

Patent Assignee: ACE ORTHOPEDIC MFG (ACEO-N); SOHNGEN G W (SOHN-I)

Inventor: SOHNGEN G W

Number of Countries: 005 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4881535 | A | 19891121 | US 88240937 | A | 19880906 | 199005 B |
| EP 354395 | A | 19900214 | EP 89113358 | A | 19890720 | 199007 |

Priority Applications (No Type Date): US 88240937 A 19880906; US 88230563 A 19880810

Cited Patents: A3...9049; CH 668692; DE 2814014; EP 187283; EP 201737; FR 2524296; No-SR.Pub; SU 825047; SU 992045; US 2697433; US 4622959; US 4667664

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

| | | | | | |
|------------|---|--|---|--|--|
| US 4881535 | A | | 9 | | |
|------------|---|--|---|--|--|

| | | | | | |
|-----------|---|---|--|--|--|
| EP 354395 | A | E | | | |
|-----------|---|---|--|--|--|

Designated States (Regional): DE ES FR GB

Abstract (Basic): US 4881535 A

The device comprises a rigid elongate external support member adapted to reside outside the patient generally parallel to and along the patient's femur during installation of an **intramedullary rod** in the patient's femur. A jig **removeably** mount the proximal end of **intramedullary rod** to and spaced from the proximal end of the

external support member.

The jig positions the **intramedullary rod** generally parallel to the external support member with the axis of the **fastener screw apertures** in a predetermined relationship with respect to the external support member. A trochar alignment device is moveably mounted proximate the distal end of the external support member for being aligned with the axis of the **fastener screw apertures** the **intramedullary rod**.

USE - For guiding drilling of distal **fastener screw** passages in the femur of a patient during the installation in the patient's femur of an **intramedullary rod**.

Title Terms: INTRAMEDULLARY; ROD; TRIGGER; DEVICE; GUIDE; DRILL; DISTAL; SCREW; PASSAGE; FEMUR; PATIENT; INSTALLATION

Derwent Class: P31

International Patent Class (Additional): **A61B-017/56**

File Segment: EngPI

16/5/27 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007914905

WPI Acc No: 1989-180017/198925

Related WPI Acc No: 1992-169046

XPX Acc No: N89-137461

Intramedullary **inter-trochanteric** fracture fixation - has

intramedullary rod with angled opening to receive femoral neck screw

Patent Assignee: HOWMEDICA INT INC (HOWN)

Inventor: ADCOCK P J; LAWES P; TAYLOR S

Number of Countries: 018 Number of Patents: 012

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 321170 | A | 19890621 | EP 88311746 | A | 19881212 | 198925 B |
| AU 8826834 | A | 19890615 | | | | 198932 |
| AU 9178272 | A | 19910829 | | | | 199141 |
| US 5176681 | A | 19930105 | US 88281730 | A | 19881209 | 199304 |
| CA 1323536 | C | 19931026 | CA 585817 | A | 19881213 | 199349 |
| EP 321170 | B1 | 19941130 | EP 88311746 | A | 19881212 | 199501 |
| DE 3852282 | G | 19950112 | DE 3852282 | A | 19881212 | 199507 |
| | | | EP 88311746 | A | 19881212 | |
| ES 2064363 | T3 | 19950201 | EP 88311746 | A | 19881212 | 199511 |
| IE 65776 | B | 19951115 | IE 883716 | A | 19881213 | 199605 |
| JP 9164151 | A | 19970624 | JP 88316048 | A | 19881214 | 199735 |
| | | | JP 96273554 | A | 19881214 | |
| IE 78014 | B | 19980211 | IE 883716 | A | 19881213 | 199812 |
| | | | IE 95558 | A | 19881213 | |
| JP 10066698 | A | 19980310 | JP 96273554 | A | 19881214 | 199820 |
| | | | JP 97225204 | A | 19881214 | |

Priority Applications (No Type Date): GB 8814920 A 19880623; GB 8729146 A 19871214

Cited Patents: DE 528770; DE 620399; EP 187283; US 622959; 2.Jnl.Ref; DE 8528770; DE 8620399; US 4622959

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
| EP 321170 | A | E | 12 | | |

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

| | | | |
|------------|---|----|-------------|
| US 5176681 | A | 14 | A61B-017/58 |
|------------|---|----|-------------|

| | | | | |
|-----------|----|---|----|-------------|
| EP 321170 | B1 | E | 14 | A61B-017/58 |
|-----------|----|---|----|-------------|

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

| | | | |
|-------------|----|---------------|--------------------------------|
| DE 3852282 | G | A61B-017/58 | Based on patent EP 321170 |
| ES 2064363 | T3 | A61B-017/58 | Based on patent EP 321170 |
| JP 9164151 | A | 9 A61B-017/58 | Div ex application JP 88316048 |
| IE 78014 | B | A61B-017/72 | Div ex application IE 883716 |
| JP 10066698 | A | 8 A61B-017/58 | Div ex application JP 96273554 |
| CA 1323536 | C | A61B-017/58 | |
| IE 65776 | B | A61B-017/58 | |

Abstract (Basic): EP 321170 A

The intramedullary inter trochanteric fracture **fixing** has an **intramedullary rod** (1) with an angled **opening** to receive a femoral neck screw (5). The rod has a coaxial bore (3) extending into the **opening**.

An anti-rotation stop is located in the bore to selectively prevent rotation of the neck screw in the rod. The open end of the bore is provided with a guide to positively locate a **removable** fitting on the proximal end of the rod.

ADVANTAGE - **Secure** retention of neck screw.

Title Terms: INTRAMEDULLARY; INTER; TROCHANTER; FRACTURE; **FIX** ;
INTRAMEDULLARY; ROD; ANGLE; OPEN; RECEIVE; FEMORAL; NECK; SCREW

Derwent Class: P31

International Patent Class (Main): **A61B-017/58** ; **A61B-017/72**

File Segment: EngPI

?

18/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

05020923 **Image available**
INTRAMEDULLARY NAIL INSTALLING JIG

PUB. NO.: 07-313523 [JP 7313523 A]
PUBLISHED: December 05, 1995 (19951205)
INVENTOR(s): ITOMITSU MORINORI
KOJIMA SATOSHI
APPLICANT(s): ASAHI OPTICAL CO LTD [350041] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 06-130986 [JP 94130986]
FILED: May 20, 1994 (19940520)
INTL CLASS: [6] A61B-017/58
JAPIO CLASS: 28.2 (SANITATION -- Medical)

ABSTRACT

PURPOSE: To provide an **intramedullary nail** installing jig by which the inside ends of both long tubular **bone pieces** can be simply and reliably put in a contact condition when the fractured long tubular **bone pieces** are fixed to each other by an **intramedullary nail**.

CONSTITUTION: This **intramedullary nail** installing jig 11 is provided with a base part 15 to be installed in an end part of an **intramedullary nail** 5 and a drill guide part 17 which is supported with the base part 15 and where prepared **holes** for **intramedullary nail** fixing screws 9 are penetratingly arranged in a place close to the end part of the **intramedullary nail** 5 from the direction orthogonal to the lengthwise direction of the **intramedullary nail** 5, and is provided with a guide shaft part 19 which is arranged in the base part 15 and extends in the lengthwise direction of the **intramedullary nail** 5 in a condition where the base part 15 is installed in the end part of the **intramedullary nail**, a pressing-down plate 21 movably arranged on the guide shaft part 19 and a pressing-down plate moving means 23 to move the pressing-down plate 21.

18/5/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015971954 **Image available**
WPI Acc No: 2004-129795/200413
XRPX Acc No: N04-103422

Adaptive plate for union of bone fractured fragments

Patent Assignee: SOLOVEV V A (SOLO-I)

Inventor: SOLOVEV V A

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|---------------|------|----------|----------|
| RU 2218123 | C2 | 20031210 | RU 2001131134 | A | 20011120 | 200413 B |

Priority Applications (No Type Date): RU 2001131134 A 20011120

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| RU 2218123 | C2 | | A61B-017/80 | |

Abstract (Basic): RU 2218123 C2

NOVELTY - Adaptive plate consists of two branches with hinge secured between them for provision of branches mobility in plane of their installation. Each branch has **holes** for locking screws. Hinges are installed on similar ends of both branches and interconnected by connector for branch deflection from their common plane, both, individual and common. Branches have stops for restriction of hinges motion. **Holes** for locking screws on one branch are displaced with respect of similar **holes** on the other branch.

USE - Medicine, particularly, traumatology and orthopedics.

ADVANTAGE - Increased reliability of **fixation of bone fractured fragments** . 4 cl, 10 dwg

pp; 0 DwgNo 1/1

Title Terms: ADAPT; PLATE; UNION; BONE; FRACTURE; FRAGMENT

Derwent Class: P31

International Patent Class (Main): A61B-017/80

File Segment: EngPI

18/5/3 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015872560 **Image available**

WPI Acc No: 2004-030391/200403

Related WPI Acc No: 2002-425534

XRFX Acc No: N04-023866

Percutaneous scaphoid bone fixation method, involves incising tissue proximate to guide wire and spreading tissue to place drill bit for drilling hole in fragments to install fixation device within hole

Patent Assignee: FEILER F C (FEIL-I)

Inventor: FEILER F C

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|---------------|------|----------|----------|
| US 6589242 | B1 | 20030708 | US 2000693580 | A | 20001020 | 200403 B |

Priority Applications (No Type Date): US 2000693580 A 20001020

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| US 6589242 | B1 | 10 | A61B-017/56 | |

Abstract (Basic): US 6589242 B1

NOVELTY - The method involves placing a limb in a stabilizing clamp and resolving a course of a fixation device through the fractured bone faces. A guide wire is placed through the bone along a resolved coarse. The tissue proximate to the wire is incised and is spreaded to provide space for a drill bit and the device. A **hole** is drilled in the fragments by directing a drill over the wire to install device within the **hole** .

USE - Used for percutaneous **fixation of fractured** scaphoid bone in human wrists.

ADVANTAGE - The method allows a less experienced hand surgeon to fix the **fracture** with **fixation** device, thereby allowing good apposition of **bone fragments** and hence minimization of surgical exposure of the wrist.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of the limp clamp.

pp; 10 DwgNo 1/13

Title Terms: PERCUTANEOUS; BONE; FIX; METHOD; INCISION; TISSUE; PROXIMATE; GUIDE; WIRE; SPREAD; TISSUE; PLACE; DRILL; BIT; DRILL; **HOLE** ; FRAGMENT;

INSTALLATION; FIX; DEVICE; **HOLE**
Derwent Class: P31
International Patent Class (Main): A61B-017/56
File Segment: EngPI

18/5/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015477137 **Image available**
WPI Acc No: 2003-539284/200351
XRPX Acc No: N03-427604

A set of pieces for carrying out combined supraosseous intramedullary osteosynthesis of proximal femur part
Patent Assignee: PICHKHADZE I M (PICH-I); TRAUMATOLOGY & ORTHOPAEDICS RES INST (TRAU-R); TROTSSENKO V V (TROT-I)
Inventor: KOTOV V L; NUZHIDIN V I; PICHKHADZE I M; RADZHABOV M O; SNETKOV A I; TROTSSENKO V V
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
RU 2206290 C2 20030620 RU 2001115064 A 20010605 200351 B

Priority Applications (No Type Date): RU 2001115064 A 20010605

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| RU 2206290 | C2 | | | A61B-017/74 | |

Abstract (Basic): RU 2206290 C2

NOVELTY - Device has supraosseous plates proximal ends of which have two sharp ends, trochanteric covers, surgical screws, nuts, **intramedullary** proximally curved **rod** threaded on proximal end, anti-rotation removable washers having **holes** for receiving screws, screws, tube with curved distal end cut as groove and rod with self-separating leaflets.

USE - Medical engineering.

ADVANTAGE - Reliability supraosseous osteosynthesis; neutralized lever properties of **bone fragments**. 5 cl, 2 dwg
pp; 0 DwgNo 1/1

Title Terms: SET; PIECE; CARRY; COMBINATION; INTRAMEDULLARY; OSTEOSYNTHESIS
; PROXIMITY; FEMUR; PART

Derwent Class: P31

International Patent Class (Main): A61B-017/74

International Patent Class (Additional): A61B-017/72; A61B-017/76;

A61B-017/78; A61B-017/80

File Segment: EngPI

18/5/5 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015370076 **Image available**
WPI Acc No: 2003-431014/200340
XRPX Acc No: N03-344088

Equipment for fixing an intramedullary nail in the broken pieces of a hollow bone has means for drilling holes in the bone in alignment with the holes in the intramedullary nail
Patent Assignee: SANATMETAL KFT (SANA-N)

Inventor: FARKAS J; SMUTZER T
Number of Countries: 096 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---------------|------|----------|---------------|------|----------|----------|
| WO 200343508 | A1 | 20030530 | WO 2002HU117 | A | 20021112 | 200340 B |
| AU 2002366003 | A1 | 20030610 | AU 2002366003 | A | 20021112 | 200419 |

Priority Applications (No Type Date): HU 20014991 A 20011119

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200343508 A1 E 26 A61B-017/17

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS
JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL
PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB
GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

AU 2002366003 A1 A61B-017/17 Based on patent WO 200343508

Abstract (Basic): WO 200343508 A1

NOVELTY - An apparatus for fixing an **intramedullary nail** (10) includes a guide structure (30) incorporating a supporting element (31) to which is attached a sleeve fixing body (32), and a handle (34). The sleeve fixing body comprises a neck part (32a) and a head part (32c) having two openings (32e) with drill sleeves (40) for forming the first and second locking bores in the second fixing end of the **intramedullary nail**. The apparatus also includes an aiming unit and a drill guide part for clamping to the first fixing end of the **intramedullary nail**. The disclosure also includes the method of use for making holes in the bone that match up with the locking holes in the fixing ends of the **intramedullary nail**.

USE - Simplifies the fixing of an **intramedullary nail** within the broken pieces of a hollow bone, such as a tibia.

ADVANTAGE - Dispenses with the need for an image intensifier, thereby eliminating the risk of radiation injury to the patient and medical staff.

DESCRIPTION OF DRAWING(S) - The drawing shows a side view of the guide structure in partial cross-section.

Intramedullary nail (10)

Guide structure (30)

Supporting element (31)

Sleeve fixing body (32)

Neck part of the sleeve fixing body (32a)

Head part of the sleeve fixing body (32c)

Openings in the sleeve fixing body (32e)

Handle (34)

Drill sleeves (40)

pp; 26 DwgNo 2/3

Title Terms: EQUIPMENT; FIX; INTRAMEDULLARY; NAIL; BREAK; PIECE; HOLLOW; BONE; DRILL; **HOLE**; BONE; ALIGN; **HOLE**; INTRAMEDULLARY; NAIL

Derwent Class: P31

International Patent Class (Main): A61B-017/17

File Segment: EngPI

18/5/8 (Item 7 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012912904 **Image available**

WPI Acc No: 2000-084740/200007

XRPX Acc No: N00-066446

Device for femur osteosynthesis

Patent Assignee: NOVOS MED INST (NSMI); SIBE MED CATASTROPHES SCI
PRACTICAL (SIME-R)

Inventor: VYGOVSKII N V

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| RU 2118134 | C1 | 19980827 | RU 95121061 | A | 19951214 | 200007 B |

Priority Applications (No Type Date): RU 95121061 A 19951214

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| RU 2118134 | C1 | | | A61B-017/72 | |

Abstract (Basic): RU 2118134 C1

NOVELTY - **Rod** is introduced into **medullary** channel of central fragment till its threaded part enters wound of greater trochanter region. Extended compressing nut is screwed on threaded part of rod. After comparing the fragments rod is moved into middle fragment and then, into distal **fragment**. Search **hole** is made in **bone**. Threaded stud is screwed into rod **hole** by means of socket wrench through **hole** in bone till bone smaller diameter is immersed in bone **hole**. Rod is pressed to cortical plate of lower and middle fragments on side of recess opposite to rest to provide for reposition of fragments. External cortical nut having tapered base is screwed on protruding part of threaded stud on side of its tetrahedral head. Tapered base of nut is immersed in search **hole** 20 and it locks threaded stud in it. Plate with slot, type tuning fork, is placed on threaded stud 6, and 1-2 more **holes** are drilled through it. Then extended compressing nut protruding above skin is screwed by means of socket wrench onto threaded part of rod till its tapered head is immersed, it rests on greater trochanter, and required compression is created. In this case, extended compressing nut is positioned on threaded part of rod, on level necessary to give device length equal to length of patient's bone.

USE - Medicine; treatment of tubular bone fractures.

ADVANTAGE - Provision for stable compressing and locking osteosynthesis. 2 cl, 4 dwgo
pp; 0 DwgNo 1/1

Title Terms: DEVICE; FEMUR; OSTEOSYNTHESIS

Derwent Class: P31

International Patent Class (Main): A61B-017/72

International Patent Class (Additional): A61B-017/90

File Segment: EngPI

18/5/9 (Item 8 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012868934 **Image available**

WPI Acc No: 2000-040767/200004

XRPX Acc No: N00-030920

Repositioning instrument for fixing fragment fractures in bone shafts

Patent Assignee: AESCULAP AG & CO KG (AESC-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|------|-------------|------|------|------|
|-----------|------|------|-------------|------|------|------|

DE 29916804 U1 19991209 DE 99U2016804 U 19990923 200004 B

Priority Applications (No Type Date): DE 99U2016804 U 19990923

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 29916804 U1 32 A61B-017/68

Abstract (Basic): DE 29916804 U1

NOVELTY - The repositioning instrument comprises a fixation nail and a target object (19), with fixing elements (33) fitting in fixation **holes** (10,11,12,13). The target object has many **holes** so that it may be aligned relative to a fixation nail (7). The fixing element is fixable in a pre-determined position relative to the fixation nail, and two of the fixing **holes** (10,11) lie in a plane, with the others (12,13) running perpendicular to them.

USE - For surgical use in **fracture fixation** of long bones or bone shafts e.g. in the humerus.

ADVANTAGE - No **opening** needs to be made in the head of the fractured bone in order to attach a fixation nail.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of the instrument.

Fixation nail (7)

Fixation **holes** (10,11,12,13)

Target object (19)

Fixing elements (33)

pp; 32 DwgNo 2/7

Title Terms: REPOSITION; INSTRUMENT; FIX; FRAGMENT; FRACTURE; BONE; SHAFT

Derwent Class: P31

International Patent Class (Main): A61B-017/68

International Patent Class (Additional): A61B-017/60

File Segment: EngPI

18/5/11 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011944549 **Image available**

WPI Acc No: 1998-361459/199831

Related WPI Acc No: 2000-222916

XRPX Acc No: N98-282278

Presetting drill jig for installing intramedullary nail in fractured bone - has nail extending distally and proximal w.r.t. fracture in reinforcement of fractured parts of bone that have been re-aligned or merely held in alignment for course of healing repair

Patent Assignee: ORTHOFIX SRL (ORTH-N)

Inventor: FACCIOLO G; ROSSI S

Number of Countries: 002 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5766179 | A | 19980616 | US 97812363 | A | 19970305 | 199831 B |
| CA 2203581 | A | 19980905 | CA 2203581 | A | 19970424 | 199904 |

Priority Applications (No Type Date): US 97812363 A 19970305

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5766179 A 16 A61B-017/56

CA 2203581 A A61B-017/90

Abstract (Basic): US 5766179 A

The system provides a drill jig that features a longitudinally adjustable nail-contactable contact-rod mounting in the jig and a drill-guide which can align with the blind distal bone-screw **hole** for a correct nail-contactable adjustment of the contact rod. The system enables the surgeon to check-out the drill jig in assembled relation to a selected **intramedullary nail**, prior to **nail** installation, and to perform an adjustment to compensate for nail diameter when the contact end of the rod engages the nail. He can then either visually satisfy himself of the drill-guide/bolt- **hole** alignment, or he can use a plug-gage or trocar tool having guidance in the drill guide, and checking for whether the **plug** gage has entry into the **bone -screw hole** in the **intramedullary nail**.

Having thus ascertained that the adjusted contact-rod position can correctly identify drill-guide alignment with one or more bone-screw **holes** of the **intramedullary nail**, it is only necessary, after installing the nail and connecting the jig to the proximal end of the nail, to make a small local surgical incision through flesh and bone sufficient to enable direct stabilising (contact-rod) contact with the nail, whereupon it is known that the drill guides are in correctly drillable alignment with the targeted bone-screw **holes** of the installed nail. Drilling and setting of bone screws can immediately proceed in customary manner.

ADVANTAGE - Avoids the need for shims or their equivalent and is able to serve for assurance of bone- **hole** -aligned drilling of bone, regardless of the radius of a selected **intramedullary nail**.

Dwg.1/12

Title Terms: PRESET; DRILL; JIG; INSTALLATION; INTRAMEDULLARY; NAIL; FRACTURE; BONE; NAIL; EXTEND; DISTAL; PROXIMITY; FRACTURE; REINFORCED; FRACTURE; PART; BONE; ALIGN; HELD; ALIGN; COURSE; HEAL; REPAIR

Derwent Class: P31

International Patent Class (Main): A61B-017/56; A61B-017/90

File Segment: EngPI

18/5/12 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011843464 **Image available**

WPI Acc No: 1998-260374/199823

XRPX Acc No: N98-205311

Stabilising device e.g. for setting fractured wrist bones - has set of holes in template block for receiving wires passed through fragments of fractured bone, with first hole formed linearly and second and third holes extended at pre-defined angles

Patent Assignee: BENOIST L (BENO-I)

Inventor: BENOIST L

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5741251 | A | 19980421 | US 97779522 | A | 19970107 | 199823 B |

Priority Applications (No Type Date): US 97779522 A 19970107

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5741251 A 8 A61B-017/64

Abstract (Basic): US 5741251 A

The device comprises a fixator with a rectangular template block (10) having a top, a first side, a second side (15), a first end (13)

and a second end. A set of **holes** extending from first side to second side of template block is formed, for receiving wires that are passed through **fragments** of fractured **bone** while setting it. The first **hole** is formed in the template block near its top and first end, which extends from first side to second side linearly.

A second **hole** is formed near the second end of the template block such that it is below the first **hole**. The second **hole** extends from the first side to the second side at an elevation angle of 8-14 deg. A third **hole** is formed near first end such that it is below and in line with first **hole**. The third **hole** is extended in the template from top to bottom at an angle of 30+2 deg. The wires passing through the first and third **holes** subtend an angle 30+2 deg. mutually. Fourth and fifth **holes** extending from first side to second side at an angle of 30+2 deg. and 8-14 deg. are also formed.

USE - For reduction and **fixation** of a **fractured** wrist in order to stabilise fracture whilst mending.

ADVANTAGE - Simplifies structure. Offers high degree of stability while holding fractured bone.

Dwg.1A/11

Title Terms: STABILISED; DEVICE; SET; FRACTURE; WRIST; BONE; SET; **HOLE** ;
TEMPLATE; BLOCK; RECEIVE; WIRE; PASS; THROUGH; FRAGMENT; FRACTURE; BONE;
FIRST; **HOLE** ; FORMING; LINEAR; SECOND; THIRD; **HOLE** ; EXTEND; PRE;
DEFINE; ANGLE

Derwent Class: P31

International Patent Class (Main): A61B-017/64

File Segment: EngPI

18/5/13 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010904492 **Image available**

WPI Acc No: 1996-401443/199640

XRPX Acc No: N96-338263

Bone fixation assembly for fracture of upper ulna - has elongated medullary pin and head member, this pin having aperture in distal end for transverse locking screws

Patent Assignee: HOSPITAL JOINT DISEASES (HOSP-N)

Inventor: FRANKEL V H; KUMMER F J

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5549609 | A | 19960827 | US 93116700 | A | 19930907 | 199640 B |
| | | | US 94317287 | A | 19941003 | |

Priority Applications (No Type Date): US 93116700 A 19930907; US 94317287 A 19941003

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|---------------------------------|
| US 5549609 | A | 6 | A61B-017/72 | Cont of application US 93116700 |

Abstract (Basic): US 5549609 A

The assembly comprises an elongated medullary pin having a longitudinal axis and distal and proximal ends and having at least one **aperture** disposed only at its distal end. There is a head device disposed at the proximal end of the pin for transmitting force to the olecranon along the longitudinal axis of the pin as the head device is tightened, comprising, a U-shaped member, for holding the proximate end of the pin in place at the proximate end of the ulna.

The U-shaped member comprises two inwardly extending, projecting, pointed portions, a sleeve portion disposed around the proximal end of the pin, and an **aperture** having a longitudinal axis which coincides with the longitudinal axis of the pin. There is a screw disposed within the **aperture** of the U-shaped member for compressing the at least one fracture. The sleeve member and the proximate end of the pin are adapted to prevent rotation of the head device within the upper ulna.

ADVANTAGE - Provides rotation control of the proximate **bone fragment**. Has staple like head which prevents relative rotation of the **bone fragments** of the broken upper ulna **bone** during the healing period.

Dwg.2A/4

Title Terms: BONE; FIX; ASSEMBLE; FRACTURE; UPPER; ULNA; ELONGATE; MEDULLARY; PIN; HEAD; MEMBER; PIN; **APERTURE**; DISTAL; END; TRANSVERSE; LOCK; SCREW

Derwent Class: P31

International Patent Class (Main): A61B-017/72

File Segment: EngPI

18/5/14 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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010846391 **Image available**

WPI Acc No: 1996-343344/199635

XRPX Acc No: N96-289059

Pin plate device providing rigid fixation of fracture fragment - has pin plate fixed to stable bone fragment b screws, with pins passed through holes in pin plate, through loose bone fragments and further into stable bone fragment

Patent Assignee: COLLUX AB (COLL-N); MEDOFF R J (MEDO-I); MEDOV R J (MEDO-I)

Inventor: MEDOFF R J

Number of Countries: 070 Number of Patents: 010

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 723764 | A1 | 19960731 | EP 96100867 | A | 19960123 | 199635 B |
| WO 9622743 | A1 | 19960801 | WO 96SE83 | A | 19960126 | 199636 |
| SE 9500285 | A | 19960728 | SE 95285 | A | 19950127 | 199641 |
| AU 9646377 | A | 19960814 | AU 9646377 | A | 19960126 | 199650 |
| | | | WO 96SE83 | A | 19960126 | |
| JP 8266562 | A | 19961015 | JP 9611678 | A | 19960126 | 199651 |
| SE 508120 | C2 | 19980831 | SE 95285 | A | 19950127 | 199841 |
| US 5931839 | A | 19990803 | US 96590918 | A | 19960124 | 199937 |
| EP 723764 | B1 | 20020502 | EP 96100867 | A | 19960123 | 200230 |
| DE 69620930 | E | 20020606 | DE 620930 | A | 19960123 | 200245 |
| | | | EP 96100867 | A | 19960123 | |
| ES 2176366 | T3 | 20021201 | EP 96100867 | A | 19960123 | 200305 |

Priority Applications (No Type Date): SE 95285 A 19950127

Cited Patents: EP 382256; FR 2291734; FR 2501033; GB 1300449; GB 2158716

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 723764 A1 E 7 A61B-017/84

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

WO 9622743 A1 E 17 A61B-017/84

Designated States (National): AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MK MN MW

MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LS LU
MC MW NL OA PT SD SE SZ UG

SE 9500285 A A61B-017/84
AU 9646377 A A61B-017/84 Based on patent WO 9622743
JP 8266562 A 7 A61F-002/28
SE 508120 C2 A61B-017/84
US 5931839 A A61B-017/80
EP 723764 B1 E A61B-017/84
Designated States (Regional): CH DE ES FR GB IT LI NL SE
DE 69620930 E A61B-017/84 Based on patent EP 723764
ES 2176366 T3 A61B-017/84 Based on patent EP 723764

Abstract (Basic): EP 723764 A

The implantable device is for fixation of one or more fractured **bone fragments** (9) to a stable bond fragment (10). There is a plate (1) secured at an end to a stable **bone fragment** (10) and used to constrain by direct contact (8) one or more degrees of freedom of movement of at least one pin (8) placed in a fractured **bone fragment** (9,10).

The plate (1) constrains the motion of at least one pin (8) adjacent to a site of penetration of a **bone fragment** (9) by the pin (8) with or without further penetration of the same or other **bone fragments** by the pin (8) at other more distant locations. The plate (1) has at least one **opening** (3) for constraining the motion of the pin (8).

ADVANTAGE - Provides **fixation** of **fracture** fragments while allowing immediate motion of joint.

Dwg.5/6

Title Terms: PIN; PLATE; DEVICE; RIGID; FIX; FRACTURE; FRAGMENT; PIN; PLATE ; FIX; STABILISED; BONE; FRAGMENT; SCREW; PIN; PASS; THROUGH; **HOLE** ; PIN ; PLATE; THROUGH; LOOSE; BONE; FRAGMENT; STABILISED; BONE; FRAGMENT

Derwent Class: P31; P32

International Patent Class (Main): A61B-017/80; A61B-017/84; A61F-002/28

File Segment: EngPI

18/5/16 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009890075 **Image available**

WPI Acc No: 1994-169991/199421

XRFX Acc No: N94-133879

Bone fragment fixing device, esp. for trochanter or trochanter-diaphysis fractures - comprises medullary pin with threaded transverse hole (s) for sleeve(s) receiving fixing screw(s)

Patent Assignee: FIXANO SA (FIXA-N); DE LA CAFFINIERE J (DCAF-I); FIXANO (FIXA-N)

Inventor: DE LA CAFFINIERE J

Number of Countries: 010 Number of Patents: 006

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| EP 599752 | A1 | 19940601 | EP 93420465 | A | 19931123 | 199421 B |
| FR 2698261 | A1 | 19940527 | FR 9214111 | A | 19921124 | 199424 |
| JP 7313524 | A | 19951205 | JP 94112571 | A | 19940526 | 199606 N |
| US 5531748 | A | 19960702 | US 94245239 | A | 19940517 | 199632 N |
| EP 599752 | B1 | 19970423 | EP 93420465 | A | 19931123 | 199721 |
| DE 69310105 | E | 19970528 | DE 610105 | A | 19931123 | 199727 |
| | | | EP 93420465 | A | 19931123 | |

Priority Applications (No Type Date): FR 9214111 A 19921124; JP 94112571 A 19940526; US 94245239 A 19940517

Cited Patents: DE 9206580; EP 441577; FR 2674119; US 4827917

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|------|-----|----|-------------|---------------------------|
| EP 599752 | A1 | F | 6 | A61B-017/58 | |
| Designated States (Regional): BE CH DE ES FR GB IT LI | | | | | |
| JP 7313524 | A | | 5 | A61B-017/58 | |
| US 5531748 | A | | 4 | A61B-017/76 | |
| EP 599752 | B1 | F | 5 | A61B-017/74 | |
| Designated States (Regional): BE CH DE ES FR GB IT LI | | | | | |
| DE 69310105 | E | | | A61B-017/74 | Based on patent EP 599752 |
| FR 2698261 | A1 | | | A61B-017/58 | |

Abstract (Basic): EP 599752 A

The fixing consists of a medullary pin (1) which is locked to the bone at its distal end and has at least one **hole** through its proximal end, lying more or less parallel to the axis of the neck of the femur to receive a self-drilling and self-tapping screw (2) inserted through the bone and equipped with a sleeve (3) to fill the gaps between the screw and the pin. The screw (2) has a circular cross-section, the **holes** through the pin are threaded, and the sleeve has a threaded portion (3a) to engage with the pin.

The proximal end of the sleeve has a shoulder which butts against the face of the nail when it is screwed fully into place, and the length of the sleeve is such that its end projects from the bone after fitting, allowing the screw to be slid through it. The distal end of the sleeve also projects through the pin after fitting, ensuring a perfect guide for the screw and eliminating any risk of flexure.

ADVANTAGE - Design and manufacturing simplicity, with more reliable bone positioning.

Dwg.1/2

Title Terms: BONE; FRAGMENT; FIX; DEVICE; TROCHANTER; TROCHANTER; DIAPHYSIS ; FRACTURE; COMPRISE; MEDULLARY; PIN; THREAD; TRANSVERSE; **HOLE** ; SLEEVE; RECEIVE; FIX; SCREW

Derwent Class: P31

International Patent Class (Main): A61B-017/58; A61B-017/74; A61B-017/76

International Patent Class (Additional): A61F-002/28

File Segment: EngPI

18/5/18 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

009203428 **Image available**

WPI Acc No: 1992-330860/199240

XRPX Acc No: N92-252765

Drill pin guide device for orthopaedic surgery - has guide placed over portion of orthopaedic pin protruding from bone, to position drill bit for drilling small parallel hole

Patent Assignee: ELLIS A B (ELLI-I)

Inventor: ELLIS A B

Number of Countries: 006 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5147367 | A | 19920915 | US 91660719 | A | 19910222 | 199240 B |
| EP 506213 | A1 | 19920930 | EP 92250032 | A | 19920218 | 199240 |

Priority Applications (No Type Date): US 91660719 A 19910222

Cited Patents: DE 3818668; DE 646558; EP 59044; US 4325373

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 5147367 A 7 A61B-017/56

EP 506213 A1 E 9 A61B-017/58

Designated States (Regional): CH DE ES FR LI

Abstract (Basic): US 5147367 A

A surgeon first inserts a small orthopaedic pin through a **bone fragment** into the underlying **bone** mass to stabilise the fracture. Next a drill guide is placed over a portion of the pin protruding from the bone and is used to position a drill bit for drilling a small **hole** parallel to the inserted pin.

After removing the drill pin guide a surgical screw is inserted into the drilled **hole** . By properly adjusting the distance between pin and screw, the surgeon may create an interference fit between the two thus preventing either from unintentionally loosening.

USE - A drill pin guide device for the **fixation** of bone **fractures** .

Dwg.1/5

Title Terms: DRILL; PIN; GUIDE; DEVICE; ORTHOPAEDIC; SURGICAL; GUIDE; PLACE ; PORTION; ORTHOPAEDIC; PIN; PROTRUDE; BONE; POSITION; DRILL; BIT; DRILL; PARALLEL; **HOLE**

Derwent Class: P31

International Patent Class (Main): A61B-017/56; A61B-017/58

International Patent Class (Additional): A61B-017/16

File Segment: EngPI

18/5/24 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004730225

WPI Acc No: 1986-233567/198636

XPX Acc No: N86-174325

Appliance for fixing fractures of femur - has locking screw extending into slit of intramedullary nail to expand it against cross nail in proximal femur

Patent Assignee: WILLIAMS M O (WILL-I)

Inventor: WILLIAMS M O

Number of Countries: 007 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| EP 192840 | A | 19860903 | EP 85115748 | A | 19851211 | 198636 B |
| US 4697585 | A | 19871006 | US 85690777 | A | 19850111 | 198742 |
| EP 192840 | B | 19900808 | | | | 199032 |
| DE 3579151 | G | 19900913 | | | | 199038 |

Priority Applications (No Type Date): US 85690777 A 19850111

Cited Patents: DE 3244243; DE 913228; EP 118778; US 3433220

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 192840 A E 32

Designated States (Regional): CH DE FR GB LI SE

EP 192840 B

Designated States (Regional): CH DE FR GB LI SE

Abstract (Basic): EP 192840 A

The appliance includes a cross nail (14) for implantation in the

proximal femur and having a heel from which extends a blade for positioning in the femur neck. An **aperture** (16) in the blade receives a tubular **intramedullary nail** which is implantable in the intramedullary canal of the femur.

A locking screw is securable in a threaded longitudinal bore of the heel, and has a nose which extends into the **aperture**. A tapered nose portion (76) extends into an **intramedullary nail** slit (48) to expand the nail into locking engagement with the cross nail about the **aperture**.

ADVANTAGE - Enhanced 'knitting' of **femur fragments**.

Title Terms: APPLIANCE; FIX; FRACTURE; FEMUR; LOCK; SCREW; EXTEND; SLIT; INTRAMEDULLARY; NAIL; EXPAND; CROSS; NAIL; PROXIMITY; FEMUR

Derwent Class: P31; P32

International Patent Class (Additional): A61B-017/56; A61F-005/04

File Segment: EngPI

?

21/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

07716576 **Image available**
PROMOTER INSTRUMENT

PUB. NO.: 2003-210476 [JP 2003210476 A]
PUBLISHED: July 29, 2003 (20030729)
INVENTOR(s): AJIRO AKIO
NAKAMURA KOZO
TAKATORI YOSHIO
APPLICANT(s): AJIRO AKIO
NAKAMURA KOZO
TAKATORI YOSHIO
APPL. NO.: 2002-010300 [JP 200210300]
FILED: January 18, 2002 (20020118)
INTL CLASS: A61B-017/58

ABSTRACT

PROBLEM TO BE SOLVED: To solve problems in the conventional constitution of releasing the **fixation** of a **fractured** part wherein a **bone** and fresh part when recovered sticks closely to a bolt to cause a pain in **removal**, therefore requiring the greatest possible care in treating a patient, which results in requiring a considerable time for the **removal** and for the release of fixation particularly in the case of an infant.

SOLUTION: This promoter instrument for promoting the evulsion of a member for **fixing** the **bone** and fresh of the **fractured** part, promotes the evulsion by rocking to the member to previously separate the fixation between the bone and fresh part and the **fixing** member.

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21/5/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

014720056 **Image available**
WPI Acc No: 2002-540760/200258
XRPX Acc No: N02-428307

Bone screw for fixation of fractures in medical treatment, comprises a head, a shank with threaded sections at upper and lower ends and an unthreaded intermediate section

Patent Assignee: OLADIPO O J O (OLAD-I)

Inventor: OLADIPO O J O

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|--------------|------|----------|----------|
| GB 2370619 | A | 20020703 | GB 200031776 | A | 20001229 | 200258 B |

Priority Applications (No Type Date): GB 200031776 A 20001229

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|--------------|
| GB 2370619 | A | | 9 | A61B-017/86 | |

Abstract (Basic): GB 2370619 A

NOVELTY - The bone screw has a head (2) and a shank having cutting

threads (4,8) at upper and lower ends and an intermediate portion (6) devoid of threads. The intermediate portion has a diameter slightly smaller or same as the external diameter of the threaded portions. The threaded portions have two to ten threads depending on the diameter.

USE - Bone screw used for the treatment of fractures alone or in combination with a fixation plate.

ADVANTAGE - The interval fixation screw allows a single screw design to be used for both cortical and cancellous bones. The section devoid of threads is able to withstand significant stress across the fracture site. The smooth surface of unthreaded portion also allows easy **removal** of screw whenever desired. The screw stabilizes fracture plates to the length of the **fractured** bone and in the **fixation** of **fracture** fragments that do not require interfragmentary compression.

DESCRIPTION OF DRAWING(S) - The figure shows a front elevational view of the bone screw.

Head (2)

Cutting threads (4,8)

Intermediate portion (6)

pp; 9 DwgNo 1/1

Title Terms: BONE; SCREW; **FIX** ; FRACTURE; MEDICAL; TREAT; COMPRISE; HEAD; SHANK; THREAD; SECTION; UPPER; LOWER; END; UNTHREADED; INTERMEDIATE; SECTION

Derwent Class: P31

International Patent Class (Main): A61B-017/86

File Segment: EngPI

21/5/3 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014606894

WPI Acc No: 2002-427598/200246

XRAM Acc No: C02-121472

XRPX Acc No: N02-336194

Fixture and stuffing made of buffalo horn for promoting bone healing and repairing bone defect in bone transplantation

Patent Assignee: LUXI COUNTY PEOPLES HOSPITAL (LUXI-N)

Inventor: DA T; SUN Q; TANG X

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|---------------|------|----------|----------|
| CN 1339323 | A | 20020313 | CN 2000113118 | A | 20000817 | 200246 B |

Priority Applications (No Type Date): CN 2000113118 A 20000817

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| CN 1339323 | A | | A61L-031/16 | |

Abstract (Basic): CN 1339323 A

NOVELTY - The present invention relates to osteological medicine material. The fixture and stuffing made of buffalo horn is processed into different shape and thickness as required for **bone** transplantation, inner **fracture fixation**, inner implantation and reshaping. It has excellent chemical stability and biological compatibility, high tissue affinity and great binding force with host bone. Its use needs nosecondary operation to **take out**.

DwgNo 0/0

Title Terms: **FIX** ; STUFF; MADE; BUFFALO; HORN; PROMOTE; BONE; HEAL; REPAIR ; BONE; DEFECT; BONE; TRANSPLANT

Derwent Class: B04; D22; P31; P34
International Patent Class (Main): A61L-031/16
International Patent Class (Additional): A61B-017/68; A61L-027/54
File Segment: CPI; EngPI

21/5/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014126957
WPI Acc No: 2001-611167/200170
XRAM Acc No: C01-182503
XRPX Acc No: N01-456237

New biomedical implant useful for various medical applications e.g. bone fracture fixation is derived from tissue and shaped in the form of tape

Patent Assignee: REGENERATION TECHNOLOGIES INC (REGE-N); DONDA R S (DOND-I); GROOMS J M (GROO-I); SANDER T (SAND-I)

Inventor: DONDA R S; GROOMS J M; SANDER T

Number of Countries: 092 Number of Patents: 005

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|---------------|------|----------|----------|
| WO 200160424 | A2 | 20010823 | WO 2001US5414 | A | 20010220 | 200170 B |
| US 20010038848 | A1 | 20011108 | US 2000183468 | P | 20000218 | 200171 |
| | | | US 2000184203 | P | 20000222 | |
| | | | US 2000197477 | P | 20000417 | |
| | | | US 2001789292 | A | 20010220 | |
| AU 200141594 | A | 20010827 | AU 200141594 | A | 20010220 | 200176 |
| EP 1286707 | A2 | 20030305 | EP 2001912854 | A | 20010220 | 200319 |
| | | | WO 2001US5414 | A | 20010220 | |
| JP 2003535620 | W | 20031202 | JP 2001559519 | A | 20010220 | 200382 |
| | | | WO 2001US5414 | A | 20010220 | |

Priority Applications (No Type Date): US 2000197477 P 20000417; US 2000183468 P 20000218; US 2000184203 P 20000222; US 2001789292 A 20010220

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
|-----------|------|-----|----|----------|--------------|

| | | | | | |
|--------------|----|---|----|-------------|--|
| WO 200160424 | A2 | E | 18 | A61L-027/00 | |
|--------------|----|---|----|-------------|--|

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

| | | | | | |
|----------------|----|--|--|-------------|---------------------------------------|
| US 20010038848 | A1 | | | A61K-045/00 | Provisional application US 2000183468 |
|----------------|----|--|--|-------------|---------------------------------------|

Provisional application US 2000184203

Provisional application US 2000197477

| | | | | | |
|--------------|---|--|--|--|------------------------------|
| AU 200141594 | A | | | | Based on patent WO 200160424 |
|--------------|---|--|--|--|------------------------------|

| | | | | | |
|------------|----|---|--|-------------|------------------------------|
| EP 1286707 | A2 | E | | A61L-027/36 | Based on patent WO 200160424 |
|------------|----|---|--|-------------|------------------------------|

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

| | | | | | |
|---------------|---|--|----|-------------|------------------------------|
| JP 2003535620 | W | | 23 | A61L-027/00 | Based on patent WO 200160424 |
|---------------|---|--|----|-------------|------------------------------|

Abstract (Basic): WO 200160424 A2

NOVELTY - A biomedical implant (a) derived from tissue is shaped in the form of tapes and rolled into a spool.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) repairing soft or hard tissue and organs involving obtaining

- (a) and peeling (a) from the spool;
- (2) a biomedical implant (b) comprising a section of tissue (preferably dermis tissue) infused with at least one growth factor and/or nucleic acids;
- (3) repairing damaged tissue or stimulating the generation of tissue involving obtaining the section infused with the growth factor and implanting the section into the patient;
- (4) platelet rich plasma (PRP) obtained from an allogenic or xenogenic tissue source;
- (5) obtaining PRP involving procuring blood that has been **removed** from living or cadaveric donors or both and separating PRP from other blood components;
- (6) a growth factor composition comprising at least one growth factor that has been **extracted** from PRP;
- (7) an article of manufacture comprising a container and the growth factor composition disposed within the container;
- (8) repairing the wound, defect or other injury involving contacting an implant with the PRP or with at least one growth factor **extracted** from the PRP and implanting the implant in the patient;
- (9) a biomedical implant (c) comprising an osteogenic material and shaped into the form of tape and rolled into a spool; and
- (10) a method useful in medical procedures involving fixating **bone fractures**, ridge augmentation or sealing a graft implant site involving obtaining (c) and peeling a portion of (c) off the spool.

USE - For repairing soft or hard tissue and organs (preferably for repairing tissue and/or **fracture fixation**, guided tissue regeneration, implanting a spinal tension band, anterior ligament replacement or providing supports to ligaments), for repairing damaged tissue or stimulating the generation of tissue, repairing a wound, defect or other **injury**, in medical procedures involving fixating **bone fractures**, ridge augmentation or sealing a graft implant site (all claimed). For repairing of injuries to organs caused by trauma or disease.

ADVANTAGE - The biomedical implants are readily usable, non-immunogenic biomaterial and simple to use.

pp; 18 DwgNo 0/0

Title Terms: NEW; BIOMEDICAL; IMPLANT; USEFUL; VARIOUS; MEDICAL; APPLY; BONE; FRACTURE; **FIX**; DERIVATIVE; TISSUE; SHAPE; FORM; TAPE
 Derwent Class: A96; B04; D22; P32; P34
 International Patent Class (Main): A61K-045/00; A61L-027/00; A61L-027/36
 International Patent Class (Additional): A61F-002/04; A61F-002/06; A61F-002/08; A61F-002/28; A61L-027/54
 File Segment: CPI; EngPI

21/5/5 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013098865 **Image available**

WPI Acc No: 2000-270737/200023

XRFX Acc No: N00-202807

Curved guide pin for use in fixation of fractured bone has curved pin member which acts as guide for reamer, driven into bone by repeated impacts

Patent Assignee: DURHAM A A (DURH-I)

Inventor: DURHAM A A

Number of Countries: 088 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|------|-------------|------|------|------|
|-----------|------|------|-------------|------|------|------|

WO 200012036 A1 20000309 WO 99US20016 A 19990901 200023 B
 AU 9957990 A 20000321 AU 9957990 A 19990901 200031
 US 6074392 A 20000613 US 98145160 A 19980901 200035

Priority Applications (No Type Date): US 98145160 A 19980901

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200012036 A1 E 34 A61F-005/04

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
 CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
 KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG
 SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
 IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9957990 A A61F-005/04 Based on patent WO 200012036

US 6074392 A A61F-005/04

Abstract (Basic): WO 200012036 A1

NOVELTY - A pin guide device is used to locate the pin at the desired entry point on the bone, and the pin (12) is tapped or hammered into place. With the guide device **removed**, the pin is driven further into the bone and a flexible reamer device (14), which is placed over the pin and which uses the pin as a guide, is used to ream out the path defined by the pin so as to prepare the bone for an **intermedullary rod**. The curvature of the pin assists in ensuring that the path of the pin connects to the medullary canal.

DETAILED DESCRIPTION - The curved pin may include an enlarged head, and a two-piece pin guide device is used which is disassembled after the pin initially penetrates the bone so as to permit the pin to be driven home. A self retaining protective retractor device provides soft tissue protection during the reaming operation.

USE - E.g. for insertion of fracture **rods**, **intramedullary rods** etc. into the **intermedullary** canal of the bone.

ADVANTAGE - Simplified surgical procedure, eliminating the need for medical personnel to hold the retractor device.

DESCRIPTION OF DRAWING(S) - The drawing shows a partially sectioned side elevational view showing a reaming operation.

Pin (12)

Reamer device (14)

pp; 34 DwgNo 2/15

Title Terms: CURVE; GUIDE; PIN; **FIX**; FRACTURE; BONE; CURVE; PIN; MEMBER; ACT; GUIDE; REAM; DRIVE; BONE; REPEAT; IMPACT

Derwent Class: P32

International Patent Class (Main): A61F-005/04

File Segment: EngPI

21/5/6 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013009744 **Image available**

WPI Acc No: 2000-181596/200016

XRFX Acc No: N00-134019

Bone fixation screw system, e.g. for fixation of fractures of the hip bone and distal femur, comprises first part of resorbable material for threaded connection of the bone screw within bone, and part of stronger non-resorbable material

Patent Assignee: BIOMET INC (BIOM-N)

Inventor: VANDEWALLE M V

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 6022352 | A | 20000208 | US 97828406 | A | 19970328 | 200016 B |
| | | | US 986239 | A | 19980113 | |

Priority Applications (No Type Date): US 97828406 A 19970328; US 986239 A 19980113

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|------------|------|-----|----|-------------|---------------------------------|
| US 6022352 | A | | 8 | A61B-017/86 | Cont of application US 97828406 |
| | | | | | Cont of patent US 5810821 |

Abstract (Basic): US 6022352 A

NOVELTY - A bone screw comprises: a first part (46) of a resorbable material for threaded connection of the bone screw within a bone; a second part made from a stronger non-resorbable material (50), the mating surfaces having contoured surfaces; the first mating surface is torsionally locked with the second mating surface and the first mating surface is axially locked with the second mating surface in a first axial direction and a second axial direction; torsional and axial movement of the first part relative to the second part is inhibited.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of treating a bone with an **affixed** plate with a bone screw.

USE - Bone fixation screw system, particularly compression hip screw system for strong and stable internal fixation for a variety of intertrochanteric, subtrochanteric and basilar neck fractures as well as compression screw systems for supracondylar or 'T' condylar **fractures** about the distal **femur**.

ADVANTAGE - After sufficient healing of the bone has occurred, the male threads will be absorbed into the bone. The side plate can remain attached to the bone and the lag screw can be simply pulled out in a rearward direction for **removal**.

DESCRIPTION OF DRAWING(S) - The drawing shows a side sectional view of a lag screw with a first part with resorbable male threads connected to a second non-resorbable part of the lag screw.

Lag screw (44)
Lag screw first part (46)
Male thread (48)
Lag screw second part (50)
Rear end (76)
pp; 8 DwgNo 2/10

Title Terms: BONE; **FIX**; SCREW; SYSTEM; **FIX**; FRACTURE; HIP; BONE; DISTAL; FEMUR; COMPRISE; FIRST; PART; RESORPTION; MATERIAL; THREAD; CONNECT; BONE; SCREW; BONE; PART; STRONG; NON; RESORPTION; MATERIAL

Derwent Class: P31

International Patent Class (Main): A61B-017/86

File Segment: EngPI

21/5/7 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012998724 **Image available**

WPI Acc No: 2000-170576/200015

XRPX Acc No: N00-126818

Intramedullary nail for the immobilization and fixation of bone fractures includes an intramedullary nail, first and second sealing plugs, a cylindrical sleeve and a gasket

Patent Assignee: GUSTILO R B (GUST-I)

Inventor: GUSTILO R B

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 6019761 | A | 20000201 | US 98219668 | A | 19981223 | 200015 B |

Priority Applications (No Type Date): US 98219668 A 19981223

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|-------------|--------------|
| US 6019761 | A | 26 | A61B-017/72 | |

Abstract (Basic): US 6019761 A

NOVELTY - The **intramedullary nail** device includes an **intramedullary nail** (22), first and second sealing plugs (24,26), a cylindrical sleeve and a resilient gasket. The cylindrical sleeve acts as a drill guide and participate in cleaning steps. The gasket **removably** operably seals the cylindrical sleeve to the outer wall of the **intramedullary nail** to prevent the migration of metal shavings into a medullary cavity (46) of long bone (42).

USE - For the immobilization and **fixation** of **bone fractures**.

ADVANTAGE - It eliminates the risk of excess exposure to x ray radiation without excess loss of good bone stock, that is easy to implant and interlock.

DESCRIPTION OF DRAWING(S) - The drawing shows a front elevational cross sectional view of the **intramedullary nail** device.

intramedullary nail (22)
first and second sealing plugs (24,26)
long bone (42)
medullary cavity (46)
pp; 26 DwgNo 2/18

Title Terms: INTRAMEDULLARY; NAIL; **FIX**; BONE; FRACTURE; INTRAMEDULLARY; NAIL; FIRST; SECOND; SEAL; PLUG; CYLINDER; SLEEVE; GASKET

Derwent Class: P31

International Patent Class (Main): A61B-017/72

File Segment: EngPI

21/5/8 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010401215 **Image available**

WPI Acc No: 1995-302528/199539

Related WPI Acc No: 1994-293912; 1994-332218

XRPX Acc No: N95-229696

Bone and tissue lengthening device - has intramedullary nail having distal end proximal portions secured in medullar canal of bone and connected hydraulic cylinder and shock absorber controlling motion

Patent Assignee: GENESIS ORTHOPEDICS (GENE-N)

Inventor: SPIEVACK A R

Number of Countries: 063 Number of Patents: 007

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| WO 9522292 | A1 | 19950824 | WO 95US1798 | A | 19950213 | 199539 B |
| AU 9519172 | A | 19950904 | AU 9519172 | A | 19950213 | 199549 |
| US 5536269 | A | 19960716 | US 9318820 | A | 19930218 | 199634 |
| | | | US 94200073 | A | 19940222 | |
| EP 746257 | A1 | 19961211 | EP 95911702 | A | 19950213 | 199703 |
| | | | WO 95US1798 | A | 19950213 | |
| CN 1119928 | A | 19960410 | CN 94116875 | A | 19940830 | 199744 |

| | | | | | | |
|------------|---|----------|-------------|---|----------|--------|
| JP 9512717 | W | 19971222 | JP 95521872 | A | 19950213 | 199810 |
| | | | WO 95US1798 | A | 19950213 | |
| TW 323227 | A | 19971221 | TW 94107984 | A | 19940829 | 199815 |

Priority Applications (No Type Date): US 94200073 A 19940222; US 9318820 A 19930218

Cited Patents: EP 346247; EP 490159; FR 2646767; US 4453539; US 5002543; WO 9418897

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|-----------|------|-----|----|----------|--------------|
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|------------|----|---|----|-------------|--|
| WO 9522292 | A1 | E | 31 | A61B-017/72 | |
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Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA UZ VN

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG

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|------------|---|--|--|-------------|----------------------------|
| AU 9519172 | A | | | A61B-017/72 | Based on patent WO 9522292 |
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| US 5536269 | A | | 14 | A61B-017/72 | CIP of application US 9318820 |
| | | | | | CIP of patent US 5350379 |

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| EP 746257 | A1 | E | 31 | A61B-017/72 | Based on patent WO 9522292 |
|-----------|----|---|----|-------------|----------------------------|

Designated States (Regional): AT BE CH DE DK ES FR GB IE IT LI NL SE

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| JP 9512717 | W | | 30 | A61B-017/58 | Based on patent WO 9522292 |
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| CN 1119928 | A | | | A61B-017/56 | |
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| TW 323227 | A | | | A61B-017/56 | |
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Abstract (Basic): WO 9522292 A

An **intramedullary nail** has a distal portion and a proximal portion. The proximal portion of the nail is securable within the medullar canal of the bone at the proximal end of the bone. The distal portion of the nail is securable within the medullar canal of the bone at the distal end of the bone.

A hydraulic cylinder is connected to the proximal portion of the nail. A piston is connected to the distal portion of the nail and movable in the cylinder. A supply of operating fluid is in communication with the cylinder. A ratcheting mechanism is between the piston and cylinder to limit their relative movement and that of the bone portions to which they are **secured** to one direction.

ADVANTAGE - Provides a completely implantable, hydraulically operated mechanism with as little opportunity for infection as possible and which is foolproof in operation.

Dwg.1/17

Title Terms: BONE; TISSUE; LENGTH; DEVICE; INTRAMEDULLARY; NAIL; DISTAL; END; PROXIMITY; PORTION; **SECURE**; MEDULLARY; CANAL; BONE; CONNECT; HYDRAULIC; CYLINDER; SHOCK; ABSORB; CONTROL; MOTION

Derwent Class: P31

International Patent Class (Main): A61B-017/56; A61B-017/58; A61B-017/72

File Segment: EngPI

21/5/9 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009932186 **Image available**

WPI Acc No: 1994-199897/199424

Related WPI Acc No: 1993-151586

XRPX Acc No: N94-157338

Intramedullary rod for fixing femoral fractures - includes thin proximal segment and is cannulated for installation over guidewire, and including internal threads

Patent Assignee: UNIV CLEMSON (UYCL-N); GREENVILLE HOSPITAL SYSTEM (GREE-N)

; LATOUR R A (LATO-I); SHULER T E (SHUL-I)
 Inventor: LATOUR R A; SHULER T E
 Number of Countries: 019 Number of Patents: 005
 Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|--------------|------|----------|----------|
| WO 9412126 | A1 | 19940609 | WO 93US11113 | A | 19931116 | 199424 B |
| US 5429640 | A | 19950704 | US 92982291 | A | 19921127 | 199532 |
| US 5562667 | A | 19961008 | US 92982291 | A | 19921127 | 199646 |
| | | | US 95428059 | A | 19950425 | |
| EP 746281 | A1 | 19961211 | WO 93US11113 | A | 19931116 | 199703 |
| | | | EP 94901534 | A | 19931116 | |
| EP 746281 | A4 | 19970101 | EP 94901534 | A | 19940000 | 199841 |

Priority Applications (No Type Date): US 92982291 A 19921127; US 95428059 A 19950425
 Cited Patents: US 4622959; DE 3730570; FR 2387637; FR 2668360
 Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|------|-----|----|-------------|--|
| WO 9412126 | A1 | E | 97 | A61F-005/04 | |
| Designated States (National): JP | | | | | |
| Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| US 5429640 | A | | 35 | A61F-005/04 | |
| US 5562667 | A | | 34 | A61B-017/72 | Div ex application US 92982291 Div ex patent US 5429640 |
| EP 746281 | A1 | E | 35 | A61F-005/04 | Based on patent WO 9412126 |
| Designated States (Regional): CH DE ES FR GB IT LI | | | | | |
| EP 746281 | A4 | | | A61F-005/04 | |

Abstract (Basic): WO 9412126 A
 The rod (36) comprises an elongated cannulated shaft with a tip end for being seated in a femoral shaft, with the tip end being introduced in a relatively distal direction through the proximal extremity of a receiving **fractured femur**. A relatively short proximal cannulated shaft segment (40) associated in axial alignment with the elongated rod shaft, proximal to it and opposite to the shaft tip end.
 It resides generally in a femoral hip region whenever the rod shaft is situated in a receiving femoral shaft. The proximal shaft segment include connections (42,44,46) for selectively interconnecting with drive components and **extraction** components for alternate installation and withdrawal, respectively, of the rod relative to a receiving femur.
 USE/ADVANTAGE - A femoral **intramedullary rod** for the biomechanically stable anatomic reduction of a **femoral shaft fracture** while facilitating the independent treatment of an ipsilateral **femoral hip fracture**.
 Dwg.1/19
 Title Terms: INTRAMEDULLARY; ROD; **FIX**; FEMORAL; FRACTURE; THIN; PROXIMITY
 ; SEGMENT; CANNULA; INSTALLATION; INTERNAL; THREAD
 Derwent Class: P31; P32
 International Patent Class (Main): A61B-017/72; A61F-005/04
 File Segment: EngPI

21/5/10 (Item 9 from file: 350)
 DIALOG(R)File 350:Derwent WPIX
 (c) 2005 Thomson Derwent. All rts. reserv.

009710341 **Image available**
 WPI Acc No: 1993-403894/199350
 XRPX Acc No: N93-312619
 Intramedullary nail - has top and distal ends with jaws pivotally

located on distal ends and secured about fixed supports in fractured bone

Patent Assignee: OTTIERI M T (OTTI-I); SANTORI F S (SANT-I)

Inventor: OTTIERI M T; SANTORI F S

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 5268000 | A | 19931207 | US 92945104 | A | 19920915 | 199350 B |

Priority Applications (No Type Date): US 92945104 A 19920915

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|---------------|--------------|
| US 5268000 | A | | 9 A61B-017/56 | |

Abstract (Basic): US 5268000 A

The jaws are configured to clamp about one or more **fixed** distal **fasteners** such as studs or screws which are inserted into the **broken** long **bone** prior to or subsequent to inserting the **nail** through the **medullar** canal. The expandable jaws provide the substantial advantage of providing a large space into which the **fasteners** can be positioned and renders the **fasteners** much more easily to target for proper positioning of the nail.

The nail includes a hollow guide tube through which the jaws are inserted and a guide means at the distal end which functions to open the jaws and to close the jaws about the **fasteners**. The jaws, when closed can be locked into place about the **fasteners** and can be subsequently unlocked so that the **fasteners** and jaws can be **removed** after the **broken bone** has healed. The **fasteners** are located by the jaws when they are in an expanded position.

ADVANTAGE - Provides an **intramedullary nail** which can be properly positioned quickly to minimize patient exposure to radiation and which can be positioned to surround one or more mating **fasteners** and which can be subsequently **removed** easily.

Dwg.2/27

Title Terms: INTRAMEDULLARY; NAIL; TOP; DISTAL; END; JAW; PIVOT; LOCATE; DISTAL; END; **SECURE** ; **FIX** ; SUPPORT; FRACTURE; BONE

Derwent Class: P31

International Patent Class (Main): A61B-017/56

File Segment: EngPI

21/5/11 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008450683

WPI Acc No: 1990-337683/199045

XRAM Acc No: C90-146383

XRPX Acc No: N90-258027

Bone-repairing composite material - comprises net or sheet-like structure of bio-adsorbable high mol. e.g. chitosan contg. adsorbable calcium phosphate (compsn).

Patent Assignee: ASAHI OPTICAL CO LTD (ASAO)

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| JP 2241460 | A | 19900926 | JP 8964098 | A | 19890316 | 199045 B |

Priority Applications (No Type Date): JP 8964098 A 19890316

Abstract (Basic): JP 2241460 A

A new bone-repairing composite material consists of a sheet or a net-like structure of a bio-absorbable high mol. material including a bio-absorbable calcium phosphate cpd. or its compsn. in a supported form. Another new material is a sheet or a net-like structure made of a compsn. comprising a bio-absorbable high mol. material and a bio-absorbable calcium phosphate cpd..

Prefd. bio-absorbable materials include polyamino acids, polylactate, polyglycolate, gelatin, collagen, chitin, carboxymethyl chitin, glycol chitin, chitosan and pullulan. Prefd. calcium phosphate cpds. include various apatites, such as hydroxyapatite, and tricalcium phosphate. Tetracalcium phosphate is also opt. blended in a gradually releasing form. Prefd. binders for preparing the phosphate compsn. include dextran and starch.

USE/ADVANTAGE - The material is used by winding around a **broken** part of a **bone**, allowing application to fine, complex parts which cannot be applied by the use of **intramedullary nails**. It exerts a **fixing** effect for a while and then dissolves gradually to supply calcium and phosphorus to fresh bones. It does not require **removal**.
(4pp Dwg.No.0/3)

Title Terms: BONE; REPAIR; COMPOSITE; MATERIAL; COMPRISE; NET; SHEET; STRUCTURE; BIO; ADSORB; HIGH; MOLECULAR; CHITOSAN; CONTAIN; ADSORB; CALCIUM; PHOSPHATE; COMPOSITION

Derwent Class: A96; D22; E33; P34

International Patent Class (Additional): A61L-027/00

File Segment: CPI; EngPI

21/5/12 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007586256

WPI Acc No: 1988-220188/198831

XRAM Acc No: C88-098282

XRPX Acc No: N88-167883

Partially fibrillated surgical fixation material - comprises resorbable (co)polymer or polymer mixt.

Patent Assignee: MATERIALS CONSULTANTS OY (MATE-N); BIOCON OY (BIOC-N); ICA SPA (ICAI-N); MAT CONSULTANTS OY (MATE-N); TORMALA P (TORM-I)

Inventor: HEPONEN V; LAIHO J; POHJONEN T; ROKKANEN P; TOERMAELAE P; VAINIONPAEAE S; HEPONEN V P; VAINIONPAA S

Number of Countries: 022 Number of Patents: 019

Patent Family:.

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| WO 8805312 | A | 19880728 | WO 87FI177 | A | 19871229 | 198831 B |
| FI 8700111 | A | 19880714 | | | | 198842 |
| AU 8810842 | A | 19880810 | | | | 198845 |
| EP 299004 | A | 19890118 | EP 88900458 | A | 19871229 | 198903 |
| PT 86530 | A | 19890130 | | | | 198912 |
| ZA 8800116 | A | 19890530 | ZA 88116 | A | 19880108 | 198927 |
| JP 1501847 | W | 19890629 | JP 88500910 | A | 19871229 | 198932 |
| CN 8800127 | A | 19880914 | | | | 198934 |
| ES 2006795 | A | 19890516 | ES 8859 | A | 19880112 | 198944 |
| BR 8707631 | A | 19891031 | | | | 198949 |
| US 4968317 | A | 19901106 | US 88250039 | A | 19881014 | 199047 |
| CA 1311689 | C | 19921222 | CA 556337 | A | 19880112 | 199305 |
| EP 299004 | B1 | 19940323 | WO 87FI177 | A | 19871229 | 199412 |
| | | | EP 88900458 | A | 19871229 | |
| DE 3789445 | G | 19940428 | DE 3789445 | A | 19871229 | 199418 |
| | | | WO 87FI177 | A | 19871229 | |

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|-------------|----|----------|-------------|---|----------|--------|
| | | | EP 88900458 | A | 19871229 | |
| JP 95096024 | B2 | 19951018 | WO 87FI177 | A | 19871229 | 199546 |
| | | | JP 88500910 | A | 19871229 | |
| KR 9513463 | B1 | 19951108 | WO 87FI177 | A | 19871229 | 199901 |
| | | | KR 88701114 | A | 19880913 | |
| US 4968317 | B1 | 19990105 | WO 87FI177 | A | 19871229 | 199909 |
| | | | US 88250039 | A | 19881014 | |
| JP 11192298 | A | 19990721 | JP 88500910 | A | 19871229 | 199939 |
| | | | JP 98298126 | A | 19871229 | |
| JP 3453314 | B2 | 20031006 | JP 88500910 | A | 19871229 | 200367 |
| | | | JP 98298126 | A | 19871229 | |

Priority Applications (No Type Date): FI 87111 A 19870113
 Cited Patents: EP 176895; EP 202090; SE 448206; US 4141087
 Patent Details:

| Patent No | Kind | Lang | Pg | Main IPC | Filing Notes |
|-------------|------|------|----|-------------|--|
| WO 8805312 | A | E | 32 | | |
| | | | | | Designated States (National): AU BR JP KR US |
| | | | | | Designated States (Regional): AT BE CH DE FR GB IT LU NL SE |
| EP 299004 | A | E | | | |
| | | | | | Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE |
| CA 1311689 | C | | | A61L-031/00 | |
| EP 299004 | B1 | E | 13 | A61L-031/00 | Based on patent WO 8805312 |
| | | | | | Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE |
| DE 3789445 | G | | | A61L-031/00 | Based on patent EP 299004 |
| | | | | | Based on patent WO 8805312 |
| JP 95096024 | B2 | | 12 | A61L-027/00 | Based on patent JP 1501847 |
| | | | | | Based on patent WO 8805312 |
| KR 9513463 | B1 | | | A61L-031/00 | |
| US 4968317 | B1 | | | A61B-017/58 | Based on patent WO 8805312 |
| JP 11192298 | A | | 14 | A61L-027/00 | Div ex application JP 88500910 |
| JP 3453314 | B2 | | 13 | A61L-027/00 | Div ex application JP 88500910 |
| | | | | | Previous Publ. patent JP 11192298 |

Abstract (Basic): WO 8805312 A

Surgical materials and devices are made of a resorbable polymer, copolymer or polymer mixt. They can be used for **bone fracture**, osteotomy, arthrodesis or joint damage fixation, or for bone tissue reconstruction. The materials or devices contain at least partially fibrillated structural units. These may be at least partially ultraoriented units and have a shear strength value of at least 200 MPa and shear modulus value of at least 4 GPa.

USE/ADVANTAGE - The devices may be a **rod**, plate, screw, **intramedullary nail** or a clamp, or the material may be used for reconstruction or augmentation of bone tissue in which case it can be formed as a plate or chute which can be filled with ceramic bone graft powder. Bone and connective tissue cells grow into the ceramic powder to immobilise it. The chute or plate is resorbed at the same time or later. The resorbable implants do not need a **removal** operation after tissue regrowth.

0/8

Title Terms: FIBRILLATE; SURGICAL; **FIX**; MATERIAL; COMPRISE; RESORPTION; CO; POLYMER; POLYMER; MIXTURE
 Index Terms/Additional Words: COPOLYMER
 Derwent Class: A96; D22; P31; P32; P34
 International Patent Class (Main): A61B-017/58; A61L-027/00; A61L-031/00
 International Patent Class (Additional): A61C-008/00; A61F-002/00; A61F-002/28; A61F-002/30
 File Segment: CPI; EngPI

21/5/13 (Item 12 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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007037163
WPI Acc No: 1987-037160/198705
XRAM Acc No: C87-015691
XRPX Acc No: N87-028150

**Bone fracture fixation prosthesis with semi-absorbable spacer - of
blend of non-absorbable and bio-absorbable polymers to maximise long-term
bone porosity and early healing**

Patent Assignee: MINNESOTA MINING & MFG CO (MINN)

Inventor: BARROWS T H

Number of Countries: 014 Number of Patents: 008

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-------------|------|----------|-------------|------|----------|----------|
| WO 8700419 | A | 19870129 | WO 86US1168 | A | 19860529 | 198705 B |
| AU 8659563 | A | 19870210 | | | | 198717 |
| EP 229106 | A | 19870722 | EP 86903922 | A | 19860529 | 198729 |
| JP 63500076 | W | 19880114 | JP 86503235 | A | 19860529 | 198808 |
| EP 229106 | B | 19910116 | | | | 199103 |
| DE 3676985 | G | 19910221 | | | | 199109 |
| US 5013315 | A | 19910507 | US 85754870 | A | 19850712 | 199121 |
| CA 1326329 | C | 19940125 | CA 510964 | A | 19860606 | 199409 |

Priority Applications (No Type Date): US 85754870 A 19850712

Cited Patents: DE 2502884; EP 52998; GB 2146535; US 3453158; US 4343931; US 4411027; WO 8400302; US 3463158

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|-----------|------|--------|----------|--------------|
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| WO 8700419 | A | E 25 | | |
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Designated States (National): AU JP

Designated States (Regional): AT BE CH DE FR GB IT LU NL SE

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| EP 229106 | A | E | | |
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Designated States (Regional): DE FR

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| EP 229106 | B | | | |
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Designated States (Regional): DE FR

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| CA 1326329 | C | | A61B-017/58 | |
|------------|---|--|-------------|--|

Abstract (Basic): WO 8700419 A

Prosthesis for use in **bone fracture fixation** comprises a **bone plate**, **bone plate spacer** comprising a blend of nonabsorbable polymer (I) and bioabsorbable polymer (II), and **fixing devices**. Pref. spacer blend comprises 20-70 wt.% (II) or mixts. of (II).

(I) are pref. polyolefins (polyethylene, polypropylene), polyamides (nylon 6, nylon 6.6, nylon12, etc.), polyurethanes (Lycra, Estane, both RTM), esp. Biomer (RTM; medical grade 'Lycra'). (II) are pref. polyglycolic acid, polylactic acid, polydioxanone, polytrimethylene carbonate or polyester-amide, esp. poly(oxysuccinoyloxyhexane-1,6-di(amidocarbonylmethylene)) (sec US4343931).

USE/ADVANTAGE - The prosthesis gives nearly 100% (pref. at least 90%) normal bone porosity in the long term without plate **removal**, yet with an early healing result equal to that obtd. with a nonabsorbable polymer spacer. Proper selection of polymers and spacer thickness can match the rate of deterioration of spacer mechanical properties with the increase in bone strength due to healing, thus avoiding the catastrophic failure which may occur with purely absorbable material. Use of partially absorbable material protects the plate from invasive bone growth and prevents the reestablishment of a stress protected environment at the fracture site. The small pore size resulting from polymer absorption prevents bone ingrowth, and the spacer retains its

structural integrity and prevents excessive motion of the plate relative to the **fixing** devices (screws, rivets or staples).

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Title Terms: BONE; FRACTURE; **FIX** ; PROSTHESIS; SEMI; ABSORB; SPACE; BLEND; NON; ABSORB; BIO; ABSORB; POLYMER; MAXIMISE; LONG; TERM; BONE; POROUS; EARLY; HEAL

Derwent Class: A96; D22; P31; P32

International Patent Class (Main): A61B-017/58

International Patent Class (Additional): A61F-005/04

File Segment: CPI; EngPI

21/5/14 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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004843159

WPI Acc No: 1986-346500/198652

XRAM Acc No: C86-150455

XRPX Acc No: N86-258582

Reinforced resorbable bone fracture immobilisation device - comprises resorbable polyester matrix with resorbable fibrous reinforcement

Patent Assignee: MATERIALS CONSULT O (MATE-N); TORMALA P (TORM-I)

Inventor: KILPIKARI J; MERO M; PATIALA H; ROKKANEN P; VAINIONPAA S; VIHTONEN K

Number of Countries: 020 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| WO 8607250 | A | 19861218 | WO 85FI52 | A | 19850614 | 198652 B |
| AU 8544906 | A | 19870107 | | | | 198711 |
| EP 227646 | A | 19870708 | EP 85902992 | A | 19850614 | 198727 |

Priority Applications (No Type Date): WO 85FI52 A 19850614; EP 85902992 A 19850614

Cited Patents: AT 347023; AU 7708575; BE 824535; BE 847004; CH 612084; DE 2501448; DE 2546824; EP 11528; EP 146398; EP 82703; FR 2279745; FR 2327758; FR 2439003; JP 52013975; JP 52051790; JP 56095050; JP 58109064; JP 59079138; NL 7500689; US 3867190; US 3960152; US 3982543; US 4010783; US 4168326; US 4279249; US 4365356; US 4415085; AT 339902; AT 364444; AU 8432624; BE 750877; BE 900513; CA 1052046; CA 1162127; CH 616417; DE 3117277; DE 3433331; EP 26773; FR 2481594; FR 2551967; GB 1494781; GB 2075144; GB 2146535; JP 50101367; JP 56168737; JP 60088543; NL 8402874; SE 7500594; SE 8404174; US 3225766; US 3626948; US 3772420; US 4033938; US 4428376; WO 8002107

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|-----------|------|--------|----------|--------------|
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|------------|---|------|--|--|
| WO 8607250 | A | E 15 | | |
|------------|---|------|--|--|

Designated States (National): AU BR DK FI JP KP NO SU US

Designated States (Regional): AT BE CH DE FR GB IT LU NL SE

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|-----------|---|---|--|--|
| EP 227646 | A | E | | |
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Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

Abstract (Basic): WO 8607250 A

Reinforced, resorbable surgical device for immobilisation of **bone fracture** comprises member(s) immobilising the **fractured bone** in relation to another **bone** and/or which go beyond or perforate the fracture and are connected with the parts of the **bone** on opposite sides of the **fracture**. The members are of resorbable polymeric matrix contg. resorbable reinforcing elements, characterised in that the reinforcing elements are polyglycolide fibres embedded in resorbable

polyester matrix of (a) poly-beta-hydroxybutyrate, or (b) glycolidelactide copolymer contg. at least 80 mole % glycolic acid units, or (c) poly-dioxanone.

The member is pref.a bone plate or beam **fixed** to the bone, or is a **medullary rod** or bone pin. Pref. the member is at least partially coated by an inorganic (metallic and/or ceramic) surface layer.

ADVANTAGE - The reinforced members have good mechanical properties (initial tensile strength 200-400 MPa) and are rapidly absorbed when the fracture is healed. Members coated with an inorganic material show a slow initial reduction in strength which accelerates when the coating is decomposed. Absorption of the members means that surgical **removal** following healing is unnecessary, and the use of biocompatible materials avoids the corrosion problems associated with metallic materials. (15pp Dwg.No.0/3)

Title Terms: REINFORCED; RESORPTION; BONE; FRACTURE; IMMOBILISE; DEVICE; COMPRISE; RESORPTION; POLYESTER; MATRIX; RESORPTION; FIBRE; REINFORCED
Derwent Class: A96; D22; P31; P32; P34
International Patent Class (Additional): A61B-017/58; A61F-002/02; A61L-027/00; A61L-033/00
File Segment: CPI; EngPI

21/5/15 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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004524303

WPI Acc No: 1986-027647/198604

XRPX Acc No: N86-020219

Fractured femur fixation **nail** - has plate with prongs which spread into femur during insertion

Patent Assignee: COARD F A (COAR-I); MAZOR B B (MAZO-I)

Inventor: COARD F A; MAZOR B B

Number of Countries: 003 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|------------|------|----------|-------------|------|----------|----------|
| US 4561432 | A | 19851231 | US 83532361 | A | 19830915 | 198604 B |
| GB 2184022 | A | 19870617 | GB 8530986 | A | 19851217 | 198724 |
| DE 3545514 | A | 19870625 | DE 3545514 | A | 19851220 | 198726 |
| GB 2184022 | B | 19891011 | | | | 198941 |

Priority Applications (No Type Date): US 83532361 A 19830915; DE 3545514 A 19851220; GB 8530986 A 19851217

Patent Details:

| Patent No | Kind | Lan Pg | Main IPC | Filing Notes |
|------------|------|--------|----------|--------------|
| US 4561432 | A | 7 | | |

Abstract (Basic): US 4561432 A

The **fixing** includes a nail to be inserted in the proximal extremity of the femur. The fore end of the nail includes prongs which tend to spread apart as the nail is inserted. A guide rod is initially inserted into the femur and is used as a guide for the nail during its insertion.

A locating bracket is used to facilitate inserting of the guide rod. The nail is connected to a driving handle which is then manually operated to insert the nail in its correct position. A turnbuckle is connected to the nail to facilitate **removal** of the nail after the **fracture** in the **femur** has healed.

ADVANTAGE - Reduced risk of vascular injury.

10/11

Title Terms: FRACTURE; FEMUR; **FIX** ; NAIL; PLATE; PRONG; SPREAD; FEMUR;

INSERT

Derwent Class: P31; P32; P62

International Patent Class (Additional): A61B-017/58; A61F-005/04;

B25C-001/02; B25C-011/00

File Segment: EngPI

21/5/16 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001481812

WPI Acc No: 1976-E4722X/197620

Threaded intramedullary compression and fixation device - is rod with threads engaging walls of medullary ganal

Patent Assignee: HALLORAN W X (HALL-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|----------|-------------|------|------|----------|
| CA 987984 | A | 19760427 | | | | 197620 B |

Priority Applications (No Type Date): CA 154662 A 19721024

Abstract (Basic): CA 987984 A

An **intramedullary rod** for use with a **fractured long bone** is of sufficient length to project from the fracture site to one end of the bone. The rod is of sufficient cross section at the fracture site to project entirely across the cross section of the medullary canal and is formed on its exterior at the fracture side with thread means for engaging the opposite walls of the medullary canal so the fracture can be compressed by a conventional compression device. The rod is inserted to cause the thread means to engage the walls of the medullary canal to hold the bone segments on opposite sides of the fracture in **fixed** spaced relationship to maintain the fracture in compression after the conventional compression device has been **removed**.

Title Terms: THREAD; INTRAMEDULLARY; COMPRESS; **FIX** ; DEVICE; ROD; THREAD; ENGAGE; WALL; MEDULLARY

Derwent Class: P32

International Patent Class (Additional): A61F-000/01

File Segment: EngPI

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20/5/1 (Item 1 from file: 5)
DIALOG(R)File 5: BIOSIS Previews(R)
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0013692864 BIOSIS NO.: 200200286375

Radiolucent position locating device and drill guide

AUTHOR: Trice Michael E (Reprint)

AUTHOR ADDRESS: 2240 W. Packard Ave., Decatur, IL, 62522, USA**USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1257 (3): Apr. 16, 2002 2002

MEDIUM: e-file

PATENT NUMBER: US 6371959 PATENT DATE GRANTED: April 16, 2002 20020416

PATENT CLASSIFICATION: 606-97 PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A method and apparatus for establishing and maintaining coaxial alignment with a transverse hole in an osteosynthesis aid in a bone. The method comprises placing a guide sleeve next to the bone, where one end of the sleeve is shaped to indent the bone. Then a radiolucent plug is inserted into the guide sleeve, the plug having a radiographic pin centrally located along the plug's long axis. The pin is then coaxially aligned with the transverse hole in the osteosynthesis aid and the pin and guide sleeve are driven into the bone, to prevent relative movement between the bone and the sleeve. The radiolucent plug is removed and a drill is placed into the guide sleeve for drilling a hole into the bone. The drill is then removed, a **fastener** is placed into the guide sleeve and driven into the bone and into the transverse hole in the osteosynthesis aid.

DESCRIPTORS:

MAJOR CONCEPTS: Equipment, Apparatus, Devices and Instrumentation;
Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences;
Surgery--Medical Sciences

METHODS & EQUIPMENT: cannula; coaxial alignment determination--
determination method; coaxial alignment maintenance--therapeutic method
; drill--accurate guidance; fastener--accurate guidance; guide sleeve--
accurate guidance; osteosynthesis aid--accurate guidance; pin and plug
assembly--accurate guidance; radiographic pin--accurate guidance;
radiolucent plug--guide sleeve insertion; radiolucent position locating
device and drill guide--surgical instrument; undesirable movement
prevention--therapeutic method

MISCELLANEOUS TERMS: transverse **intramedullary rod** holes

CONCEPT CODES:

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

?

| Set | Items | Description |
|--|---------|--|
| S1 | 76654 | (INTRAMEDUL? OR INTERMEDUL? OR IM OR MEDULLAR? ? OR MEDULA- R? ?) (3N) (NAIL? OR ROD OR RODS OR FIXATION?) OR FRACTURE? (2N) - FIXATION? |
| S2 | 2211036 | BONE OR BONES OR FEMUR OR FEMORAL |
| S3 | 1458295 | FRAGMENT? OR PIECE? ? OR PLUG OR PLUGS OR PLUGGED OR PLUGG- ING |
| S4 | 2674514 | FRACTUR? OR INJURY? OR INJURIES? OR INJURE? ? OR BROKEN |
| S5 | 3455179 | REMOV? OR (TAKE OR TOOK OR CUT OR CUTS) () OUT OR EXTRACT? |
| S6 | 902180 | SECURE? ? OR SECURING OR RESECUR? OR SUCCOR? OR FASTEN? OR REFASTEN? OR FIX??? OR AFFIX??? |
| S7 | 963410 | HOLE OR HOLES OR OPENING? OR APERTURE? OR PORTAL? ? |
| S8 | 15 | S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7 |
| S9 | 11 | S8 NOT PY=2004:2005 |
| S10 | 10 | RD (unique items) |
| S11 | 12082 | S2(5N)S3 |
| S12 | 4 | S1 AND (S11(S)S5(S)S6(S)S7) |
| S13 | 3 | RD (unique items) |
| S14 | 21580 | S2(5N)S5 |
| S15 | 5997 | S6(10N)S7 |
| S16 | 5 | S1 AND S14 AND S15 |
| S17 | 4 | S16 NOT S12 |
| S18 | 3 | RD (unique items) |
| S19 | 945 | S2(5N)S3(5N)S5 |
| S20 | 1 | S1 AND S19 AND S15 |
| S21 | 14 | S1(S)S11(S)S5(S)S6 |
| S22 | 12 | S21 NOT (S12 OR S17 OR S20 OR PY=2004:2005) |
| S23 | 6 | RD (unique items) |
| S24 | 1201 | S1 AND S11 |
| S25 | 391 | S1(S)S11 |
| S26 | 41 | S1(S)S11(S)S7 |
| S27 | 35 | S26 NOT (S12 OR S17 OR S20 OR S22 OR PY=2004:2005) |
| S28 | 21 | RD (unique items) |
| File 155:MEDLINE(R) 1951-2005/Nov 15 (c) format only 2005 Dialog | | |
| File 5: Biosis Previews(R) 1969-2005/Nov W2 (c) 2005 BIOSIS | | |
| File 73: EMBASE 1974-2005/Nov 21 (c) 2005 Elsevier Science B.V. | | |
| File 35: Dissertation Abs Online 1861-2005/Oct (c) 2005 ProQuest Info&Learning | | |
| File 65: Inside Conferences 1993-2005/Nov W3 (c) 2005 BLDSC all rts. reserv. | | |
| File 34: SciSearch(R) Cited Ref Sci 1990-2005/Nov W2 (c) 2005 Inst for Sci Info | | |
| File 434: SciSearch(R) Cited Ref Sci 1974-1989/Dec (c) 1998 Inst for Sci Info | | |
| File 94: JICST-EPlus 1985-2005/Sep W3 (c) 2005 Japan Science and Tech Corp(JST) | | |
| File 144: Pascal 1973-2005/Nov W2 (c) 2005 INIST/CNRS | | |
| File 23: CSA Technology Research Database 1963-2005/Nov (c) 2005 CSA. | | |

10/5/1 (Item 1 from file: 155)
DIALOG(R) File 155:MEDLINE(R)
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12030124 PMID: 9322196

Comparison of compression hip screw and gamma nail for treatment of peritrochanteric fractures .

Bess R J; Jolly S A

Department of Orthopedic Surgery, University of Colorado Health Sciences Center, Denver, USA.

Journal of the Southern Orthopaedic Association (UNITED STATES) Fall 1997, 6 (3) p173-9, ISSN 1059-1052 Journal Code: 9211289

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

Twenty-seven peritrochanteric fractures in 27 patients were evaluated and treated prospectively. Ten fractures were internally fixed with compression hip screws (CHS) (Omega Howmedica, Rutherford, NJ) and 135 degrees, four- hole side plates. Internal fixation of the posteromedial fragment was not done. Eleven fractures were internally fixed with Gamma nails with distal screws. Six fractures were internally fixed with Gamma nails without distal screws. Each group was evaluated for surgical time, blood loss, hospital days, collapse of the fracture, infections, cut out of the lag screw from the femoral head, fracture healing, perioperative femoral shaft fractures, and implant failure. Surgery time did not differ significantly in either group. Blood loss and hospital days were less in the Gamma nail group. There were no infections, cut out of the lag screw, implant fractures, or pulmonary complications in either group. Fracture healing was the same in both groups. Those fractures treated with Gamma nails, both with and without distal screws, had 50% less collapse than those treated with CHS. There were two femoral shaft fractures in the Gamma nail group (11.76%). There were no femoral shaft fractures in the CHS group. Fractures of the femoral shaft were believed to be caused by two factors: a mismatch of the nail design and the normal geometry of the proximal femur and stress risers in the femoral shaft caused by repeatedly missing the screw hole with the drill bit. Although the Gamma nail is an excellent device for stabilizing and preventing collapse of unstable peritrochanteric fractures, the learning curve is high, and femoral shaft fractures can occur. We believe precautions outlined in this report are helpful in preventing these complications.

Tags: Comparative Study; Female; Male

Descriptors: *Bone Nails; *Bone Plates; *Bone Screws; *Fracture Fixation, Internal--instrumentation--IS; *Fracture Fixation, Intramedullary --instrumentation--IS; *Hip Fractures --surgery--SU; Aged; Equipment Design; Equipment Failure; Femoral Fractures --radiography--RA; Femoral Fractures --surgery--SU; Follow-Up Studies; Fracture Healing--physiology--PH; Fractures, Ununited--radiography--RA; Fractures, Ununited--surgery--SU; Hip Fractures --radiography--RA; Humans; Postoperative Complications--radiography--RA; Postoperative Complications--surgery--SU; Prospective Studies; Reoperation; Risk Factors

Record Date Created: 19971125

Record Date Completed: 19971125

10/5/2 (Item 2 from file: 155)
DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

11195774 PMID: 7490649

Lag-screw osteosynthesis of mandibular condyle fractures : a clinical and radiological study.

Kallela I; Soderholm A L; Pauku P; Lindqvist C

Department of Maxillofacial Surgery, Helsinki University, Finland.

Journal of oral and maxillofacial surgery - official journal of the American Association of Oral and Maxillofacial Surgeons (UNITED STATES) Dec 1995, 53 (12) p1397-404; discussion 1405-6, ISSN 0278-2391

Journal Code: 8206428

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: AIM; DENTAL; INDEX MEDICUS

PURPOSE: This study evaluates the clinical and radiologic results after open reduction and lag-screw osteosynthesis of **fractured** mandibular condyles. **MATERIALS AND METHODS:** Eleven adult patients underwent surgery for displaced or dislocated mandibular condyle **fractures** via a submandibular approach. The repositioned **fragments** were **fixed** using lag screws designed by Krenkel or Eckelt. Maxillomandibular fixation was used postoperatively for 2.6 weeks on average (range, 1 to 4 weeks) in nine patients. **RESULTS:** Slight transient weakness of the mandibular branch of the facial nerve occurred in three cases. Occlusal adjustment was needed in another three cases. Radiologically, the **fracture** line disappeared at 22.5 weeks on average (range, 8 to 38 weeks). Three screws had to be **removed** because of loosening. There were signs that the screws had migrated caudally from their original position in seven cases. Twenty-one months on average after operation (range, 8 to 31 months), patients were satisfied with treatment. Clinically, all patients had a stable occlusion and symmetry of the face. All had greater than 5-mm symmetrical lateral jaw excursions. Ten patients had wide (> 40 mm) painless mouth **opening**. Healing in malposition occurred in four cases and there was considerable shortening of the mandibular ramus in four cases. **CONCLUSIONS:** Despite good clinical results, lag screws do not meet the needs for rigid internal fixation in the treatment of mandibular condyle **fractures**.

Tags: Female; Male

Descriptors: *Bone Screws; *Fracture Fixation, Internal --instrumentation--IS; *Mandibular Condyle--injuries--IN; *Mandibular Condyle--surgery--SU; *Mandibular Fractures --surgery--SU; Adult; Anesthesia, General; Follow-Up Studies; Fracture Fixation, Internal --methods--MT; Fracture Healing; Humans; Mandibular Condyle--radiography--RA; Mandibular Fractures --radiography--RA; Middle Aged; Time Factors

Record Date Created: 19960102

Record Date Completed: 19960102

10/5/3 (Item 3 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

04674419 PMID: 1254622

Experimental stabilization of segmental defects in the human femur . A torsional study.

Mensch J S; Markolf K L; Roberts S B; Finerman G M

Journal of bone and joint surgery. American volume (UNITED STATES) Mar 1976, 58 (2) p185-90, ISSN 0021-9355 Journal Code: 0014030

Publishing Model Print

Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: AIM; INDEX MEDICUS

One of each of thirty-five pairs of fresh intact femora were tested to failure in torsion, recording the dynamic torque, the absorbed energy, and the angle of rotation. These results were compared with the results obtained with the contralateral **femur**, reconstituted after **removal** of a segment. **Intramedullary nails** with polymethylmethacrylate cement, strips of titanium mesh with cement, **bone** plates with and without cement, and multiple Steinmann pins with cement were the reconstituting configurations. **Bone** plates were the strongest configuration; the failure torques in all cases were limited by the stress concentration effects of the **holes** in the **bone** used for screw fixation. The use of cement as an adjunct to single-plate fixation provided some additional strength. The torsional strength of femora **fixed** with Kuntscher and Schneider nails was limited by failure of the cement and **bone**. The use of titanium mesh with polymethylmethacrylate was less effective, because this composite has a low torsional rigidity. The use of multiple Steinmann pins packed with polymethylmethacrylate in the medullary cavity should be discouraged because severe twisting and **fragmentation** of the surrounding acrylic will occur at low levels of torque.

Tags: Comparative Study; In Vitro; Male
Descriptors: ***Femur** --surgery--SU; * **Fracture Fixation**, Internal; **Bone Cements**; **Bone Plates**; **Femoral Fractures** --surgery--SU; **Femur** --physiopathology--PP; **Fracture Fixation**, **Intramedullary**; Humans; Methylmethacrylates; Middle Aged; Stress, Mechanical; Titanium
CAS Registry No.: 0 (Bone Cements); 0 (Methylmethacrylates); 7440-32-6 (Titanium)
Record Date Created: 19760525
Record Date Completed: 19760525

10/5/5 (Item 2 from file: 73)
DIALOG(R) File 73:EMBASE
(c) 2005 Elsevier Science B.V. All rts. reserv.

07179162 EMBASE No: 1998066984

A biomechanical evaluation of different plates for fixation of canine radial osteotomies

Jain R.; Podworny N.; Hearn T.; Richards R.R.; Schemitsch E.H.
Dr. E.H. Schemitsch, 55 Queen Street East, Toronto, Ont. M5C 1R6 Canada
Journal of Trauma - Injury, Infection and Critical Care (J. TRAUMA INJ. INFECT. CRIT. CARE) (United States) 1998, 44/1 (193-197)
CODEN: JOTRF ISSN: 1079-6061
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 16

Background and Methods: The biomechanical properties of plates depend on their geometries and elastic moduli. The low contact-dynamic compression plate (LC-DCP) with relieved undersurfaces is a modification of the dynamic compression plate (DCP). Little attention has been directed toward comparison of the biomechanical properties of the LC-DCP and the DCP. This study compared the stiffness and strength of **bone** -plate constructs using plates of various designs and materials for fixation of radial osteotomies. In 20 matched pairs of canine radii, mid-shaft transverse osteotomies were created and **fixed** with 3.5-mm eight- **hole** plates on the volar surface. In 10 pairs, stainless-steel LC-DCPs and stainless-steel DCPs were applied.

In the other 10 pairs, stainless-steel LC-DCPs and titanium LC-DCPs were placed. Bending and torsional stiffness were determined. The plates were **removed** , and a 5-mm gap was created at the osteotomy site. The plates were reapplied to the **bones** with the inter- **fragmental** gap. Stiffness and yield point in the anteroposterior direction were determined. Results: In the absence of a **bone** gap, no statistically significant differences in construct stiffness were seen between the paired groups. In the presence of a gap, the stainless- steel LC-DCP construct was stiffer than the titanium LC-DCP construct ($p = 0.02$), and the DCP construct was stiffer than the LC-DCP construct ($p = 0.002$). The yield point of the DCP- **bone** construct was 59% greater than that of the stainless-steel LC-DCP construct ($p = 0.02$). However, the yield points of the titanium and stainless-steel LC-DCP-constructs were similar ($p = 0.35$). Conclusion: The similar results between constructs in the absence of a gap indicate that plate design and material properties may be less significant for achieving adequate stability after plate **fixation** of simple **fractures** . The use of the stiffer dynamic compression plate may be advantageous when maximum stability is required, such as with comminution or **bone** loss.

DRUG DESCRIPTORS:

stainless steel; titanium

MEDICAL DESCRIPTORS:

*osteotomy

biomechanics; dog; radius; **bone** plate; nonhuman; animal experiment; animal model; controlled study; conference paper; priority journal

CAS REGISTRY NO.: 12597-68-1 (stainless steel); 7440-32-6 (titanium)

SECTION HEADINGS:

027 Biophysics, Bioengineering and Medical Instrumentation

033 Orthopedic Surgery

10/5/7 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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07729514 Genuine Article#: 202DD Number of References: 24

Title: The mechanics of internal fixation of fractures of the distal femur : a comparison of the condylar screw (DCS) with the condylar plate (CP)

Author(s): Harder Y (REPRINT) ; Martinet O; Barraud GE; Cordey J; Regazzoni P

Corporate Source: RAT KANTONS & REG SPITAL, CHIRURG KLIN, LOESTR 170/CH-7000 CHUR//SWITZERLAND/ (REPRINT); ASIF, RES INST, AO/CH-7270 DAVOS//SWITZERLAND/

Journal: INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED, 1999, V30, 1, PS31-S39

ISSN: 0020-1383 Publication date: 19990000

Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND

Language: English Document Type: ARTICLE

Geographic Location: SWITZERLAND

Subfile: CC CLIN--Current Contents, Clinical Medicine

Journal Subject Category: EMERGENCY MEDICINE & CRITICAL CARE; SURGERY

Abstract: Distal **femoral fractures** are rare and usually complex.

Mostly, they are **fixed** with the Dynamic Condylar Screw (DCS) or the 95 degrees condylar plate (CP). The simplicity of applying the DCS compared with the CP led us to investigate whether any possible mechanical deficiencies of the CP would detract from its technical advantages, thus limiting the indications for its use in the treatment of **fractures** of the distal **femur** .

An in vitro investigation was carried out to measure the stability of a Y-osteotomy (with and without medial metaphyseal **bone** defect) stabilized either with the CT or the DCS. 8 pairs of human cadaveric femora classified according to their **bone** density were used. CP and DCS were applied to 1 **bone** in each pair by means of three lag screws (anterior, posterior and through the plate). Physiological loading was simulated and measurements were taken at the level of the osteotomy in the frontal and sagittal planes in order to assess rotational instability and the amount of gap **opening** in the vertical branch of the osteotomy.

There was no relevant difference in the mechanical properties of the two **fixations** for **fractures** without medial defect, even if the stability of the fixation was reduced by **removing** the distal screw. Furthermore, inter- **fragmental** movement was minimal. In the frontal plane, simulated closure resulted in closure of the medial branch of the osteotomy in every case without any **opening** of the vertical branch of the osteotomy. In the sagittal plane, the closure of all branches of the osteotomy was confirmed for 11 **bones** and a rotation of the condyle was observed in 5 **bones** (3 CP, 2 DCS). Re-moving the distal lag screw did not increase the instability. Even in osteoporotic **bones**, the DCS provided the same stability as the CP.

For simple Y-osteotomies, the CP did not offer any technical or mechanical advantages. The stability in the frontal plane however was significantly reduced in osteotomies with medial defect. The amplitude of inter- **fragmental** movement on all **bones** **fixed** by the CP, except for 1 pair, was greater than those **fixed** by the DCS. The absence of the anterior lag screw did not reduce stability. However, the absence of the lag screw within the implant considerably weakened the fixation - more so for the CP than for the DCS. Instability reached a maximum without any lag screw at all, which again was more pronounced for the CP than for the DCS.

The Dynamic Condylar Screw (DCS) must be regarded as the implant of choice both technically and mechanically even in osteoporotic **bones**, but the distal condylar block must be at least 4 cm in length.

Descriptors--Author Keywords: condylar plate ; condylar screw ; distal **femoral fractures**

Identifiers--KeyWord Plus(R): SUPRACONDYLAR

Cited References:

- BABST R, 1991, V57, P821, HELV CHIR ACTA
- CORDEY J, 1999, V30, P26, INJURY
- CORDEY J, 1985, V9, P386, J BIOPHYS BIOMECH
- CORDEY J, 1991, V7, P437, J BONE MINER RES
- EVANS FG, 1973, MECHANICAL PROPERTIES
- HARDER Y, 1993, THESIS BASLE
- KOLMERT M, 1982, V171, P290, CLIN ORTHOPAEDICS
- MARTINET O, 1992, THESIS DCS BASLE
- MATTER T, 1977, V80, P165, UNFALLHEILKUNDE
- MERCHAN ECR, 1992, V32, P174, J TRAUMA
- MITRA N, 1976, P 4 NEW ENGL BIOENG
- MOORE TJ, 1987, V4, P402, JT TRAUMA
- MULLER ME, 1991, MANUAL INTERNAL FIXA
- NEER C, 1967, V4, P591, J BONE JOINT SURG
- PERREN SM, 1987, P4, SCI B AO GROUPS
- RADFORD PJ, 1992, V23, P89, INJURY
- RUEGSEGGER P, 1976, P38, EXPLORATION MORHOLOG
- SANDERS R, 1991, V73, P341, J BONE JOINT SURG AM

SANDERS R, 1989, V3, P214, J ORTHOP TRAUMA
SCHATZKER J, 1973, V6, P113, INJURY
SCHATZKER J, 1989, V3, P124, J ORTHOP TRAUMA
SHEWRING DJ, 1992, V74, P122, J BONE JOINT SURG BR
STEWART MJ, 1966, V4, J BONE JOINT SURG
STROEMBERG L, 1976, V47, P256, ACTA ORTHOP SCAND

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13/5/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0013692864 BIOSIS NO.: 200200286375

Radiolucent position locating device and drill guide

AUTHOR: Trice Michael E (Reprint)

AUTHOR ADDRESS: 2240 W. Packard Ave., Decatur, IL, 62522, USA**USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1257 (3): Apr. 16, 2002 2002

MEDIUM: e-file

PATENT NUMBER: US 6371959 PATENT DATE GRANTED: April 16, 2002 20020416

PATENT CLASSIFICATION: 606-97 PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A method and apparatus for establishing and maintaining coaxial alignment with a transverse **hole** in an osteosynthesis aid in a bone. The method comprises placing a guide sleeve next to the bone, where one end of the sleeve is shaped to indent the bone. Then a radiolucent plug is inserted into the guide sleeve, the plug having a radiographic pin centrally located along the plug's long axis. The pin is then coaxially aligned with the transverse **hole** in the osteosynthesis aid and the pin and guide sleeve are driven into the bone, to prevent relative movement between the bone and the sleeve. The radiolucent plug is removed and a drill is placed into the guide sleeve for drilling a hole into the bone. The drill is then removed, a **fastener** is placed into the guide sleeve and driven into the bone and into the transverse **hole** in the osteosynthesis aid.

DESCRIPTORS:

MAJOR CONCEPTS: Equipment, Apparatus, Devices and Instrumentation;
Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences;
Surgery--Medical Sciences

METHODS & EQUIPMENT: cannula; coaxial alignment determination--
determination method; coaxial alignment maintenance--therapeutic method
; drill--accurate guidance; fastener--accurate guidance; guide sleeve--
accurate guidance; osteosynthesis aid--accurate guidance; pin and plug
assembly--accurate guidance; radiographic pin--accurate guidance;
radiolucent plug--guide sleeve insertion; radiolucent position locating
device and drill guide--surgical instrument; undesirable movement
prevention--therapeutic method

MISCELLANEOUS TERMS: transverse **intramedullary rod** holes

CONCEPT CODES:

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

13/5/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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12367533 EMBASE No: 2003472829

**Hamstring Insertion Site Healing after Anterior Cruciate Ligament
Reconstruction in Patients with Symptomatic Hardware or Repeat Rupture: A
Histologic Study in 12 Patients**

Robert H.; Es-Sayeh J.; Heymann D.; Passuti N.; Eloit S.; Vaneenoge E.
Dr. H. Robert, Centre Hospitalier Nord Mayenne, 5 rue Roullouis, 53100,

Mayenne France

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Arthroscopy - Journal of Arthroscopic and Related Surgery (ARTHROSCOPY
J. ARTHROSCOPIC RELAT. SURG.) (United States) 2003, 19/9 (948-954)

CODEN: ARTHE ISSN: 0749-8063

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 24

Purpose: Our goal was to characterize the type of biologic anchor of hamstring tendons to the femoral tunnel in cases of transfixion fixation for the anterior cruciate ligament (ACL) reconstruction. The histologic bone-hamstring tendon anchorage is not yet clearly understood despite many experimental and some clinical studies. It constitutes the weak point of the ACL reconstruction. The type of fixation, either distant from the joint such as transfixion fixation or at the tunnel entrance such as **aperture** fixation will determine a specific tendon-bone healing process. **Type of study:** Histological study. **Methods:** We performed ACL reconstruction with 4 strands of semitendinosus and gracilis tendons **fastened** by a transfixion fixation. Femoral fixation was **secured** by transfixion (Transfix; Arthrex, Naples, CA) and tibia fixation by a biodegradable interference screw and 2 staples. Between 3 and 20 months after surgery, we performed 12 hamstring tendon biopsies (in 9 men and 3 women; mean age, 29 years). Biopsies were performed 2 cm from the femoral outlet in 10 patients undergoing hardware **removal** or by coring the femoral tunnel in 2 cases of repeat rupture. In 8 cases, the femoral device was **removed** for persistent lateral pain, in 2 cases for instability of the hardware, and in 2 cases a repeat rupture of the graft occurred. The samples were taken by coring a tunnel 5 mm in diameter, with a tubular harvester, along the **femoral** Transfix axis. Each **fragment** was stained with H&E, Solochrome cyanine, or Masson-trichrome, and microscopical examination was performed, including polarized light. **Results:** At 3 months (in 1 case), a fibrovascular interface was seen between the tendon and uncalcified osteoid with very few collagen fibers. At 5 and 6 months (in 2 cases), some Sharpey-like fibers and less immature woven bone was seen. Maturity of the secondary insertion was seen after at least 10 months in 5 cases. In 2 cases, no contact was seen at the biopsy site despite good clinical stability. The 2 remaining cases underwent repeat rupture at the midsubstance of the graft at 12 and 17 months after surgery. In the first case, the tendon-bone fixation was limited at the outlet of the femoral tunnel with no fixation inside the tunnel. In the second case, the fixation was continuous with Sharpey fibers along the tunnel. **Conclusions:** According to our histologic results in patients, the time to obtain a mature indirect anchorage at the top of the tunnel was 10 to 12 months, which is much longer than in reported animal models (6 to 24 weeks). To our knowledge, this is the first clinical study reporting the histologic type of femoral ligament insertion 2 cm from the outlet of the tunnel with hamstring autograft for ACL reconstruction.

DEVICE BRAND NAME/MANUFACTURER NAME: Transfix/Arthrex/United States

DEVICE MANUFACTURER NAMES: Arthrex/United States

DRUG DESCRIPTORS:

*collagen fiber--endogenous compound--ec
dye; hematoxylin; eosin; unclassified drug

MEDICAL DESCRIPTORS:

*hamstring; *anterior cruciate ligament; *ligament surgery; *wound healing
symptomatology; knee ligament injury; histopathology; **fracture fixation**
; gracilis muscle; biodegradability; bone screw; stapler; biopsy technique;
joint instability; arthralgia; staining; microscopic anatomy; polarization;
fiber; autograft; human; male; female; clinical article; aged; adult;
article

DRUG TERMS (UNCONTROLLED): solochrome cyanine; trichrome stain

MEDICAL TERMS (UNCONTROLLED): sharpey like fiber
CAS REGISTRY NO.: 517-28-2 (hematoxylin); 17372-87-1, 51395-88-1, 548-26-5
(eosin)

SECTION HEADINGS:

027 Biophysics, Bioengineering and Medical Instrumentation
033 Orthopedic Surgery

13/5/3 (Item 2 from file: 73)

DIALOG(R) File 73:EMBASE

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07179162 EMBASE No: 1998066984

A biomechanical evaluation of different plates for fixation of canine radial osteotomies

Jain R.; Podworny N.; Hearn T.; Richards R.R.; Schemitsch E.H.
Dr. E.H. Schemitsch, 55 Queen Street East, Toronto, Ont. M5C 1R6 Canada
Journal of Trauma - Injury, Infection and Critical Care (J. TRAUMA INJ.
INFECT. CRIT. CARE) (United States) 1998, 44/1 (193-197)
CODEN: JOTRF ISSN: 1079-6061
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 16

Background and Methods: The biomechanical properties of plates depend on their geometries and elastic moduli. The low contact-dynamic compression plate (LC-DCP) with relieved undersurfaces is a modification of the dynamic compression plate (DCP). Little attention has been directed toward comparison of the biomechanical properties of the LC-DCP and the DCP. This study compared the stiffness and strength of bone-plate constructs using plates of various designs and materials for fixation of radial osteotomies. In 20 matched pairs of canine radii, mid-shaft transverse osteotomies were created and **fixed** with 3.5-mm eight- **hole** plates on the volar surface. In 10 pairs, stainless-steel LC-DCPs and stainless-steel DCPs were applied. In the other 10 pairs, stainless-steel LC-DCPs and titanium LC-DCPs were placed. Bending and torsional stiffness were determined. The plates were **removed**, and a 5-mm gap was created at the osteotomy site. The plates were reapplied to the **bones** with the inter- **fragmental** gap. Stiffness and yield point in the anteroposterior direction were determined. Results: In the absence of a bone gap, no statistically significant differences in construct stiffness were seen between the paired groups. In the presence of a gap, the stainless- steel LC-DCP construct was stiffer than the titanium LC-DCP construct ($p = 0.02$), and the DCP construct was stiffer than the LC-DCP construct ($p = 0.002$). The yield point of the DCP-bone construct was 59% greater than that of the stainless-steel LC-DCP construct ($p = 0.02$). However, the yield points of the titanium and stainless-steel LC-DCP-constructs were similar ($p = 0.35$). Conclusion: The similar results between constructs in the absence of a gap indicate that plate design and material properties may be less significant for achieving adequate stability after plate **fixation** of simple **fractures**. The use of the stiffer dynamic compression plate may be advantageous when maximum stability is required, such as with comminution or bone loss.

DRUG DESCRIPTORS:

stainless steel; titanium

MEDICAL DESCRIPTORS:

*osteotomy

biomechanics; dog; radius; bone plate; nonhuman; animal experiment; animal model; controlled study; conference paper; priority journal

CAS REGISTRY NO.: 12597-68-1 (stainless steel); 7440-32-6 (titanium)

SECTION HEADINGS:

027 Biophysics, Bioengineering and Medical Instrumentation
033 Orthopedic Surgery
?

18/5/1 (Item 1 from file: 155)
DIALOG(R) File 155:MEDLINE(R)
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11765352 PMID: 8990027

Strength recovery in fractured sheep tibia treated with a plate or an internal fixator: an experimental study with a two-year follow-up.

Tepic S; Remiger A R; Morikawa K; Predieri M; Perren S M

Research Institute, AO/ASIF Foundation, Davos, Switzerland.

Journal of orthopaedic trauma (UNITED STATES) Jan 1997, 11 (1)
p14-23, ISSN 0890-5339 Journal Code: 8807705

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

OBJECTIVES: Comparison of fracture healing with two different implants: a conventional Dynamic Compression Plate (DCP) and a new internal Point Contact Fixator (PC-Fix). DESIGN: Randomized, prospective study in experimental animals. Observation times: 12, 24, 48 and 96 weeks, with six sheep per group. SETTING: Following surgery, animals were kept with unrestricted weight-bearing in individual stalls for 12 weeks, thereafter in groups. ANIMALS: 56 adult Swiss mountain sheep. INTERVENTION: A standardized oblique fracture of the sheep tibia was reduced and compressed by a lag screw and "neutralized" with one of the implants. MAIN OUTCOME MEASUREMENTS: Standard radiographs were used for callus size measurements. After sacrifice the implant was removed and both the treated bone and the contralateral bone were tested for static strength in bending with the plate side under tension. Broken bones were processed for histological evaluation. RESULTS: In the DCP group all six bones failed through the original fracture at 12 weeks. At 24 and 48 weeks two out of six, at 96 weeks one out of six bones failed through the original fracture, others through one of the screw holes. In the PC-Fix group there were no failures through the original fracture with a single exception at 96 weeks. The strength values in the PC-Fix groups of 12 and 96 weeks were significantly higher than in the corresponding DCP groups. CONCLUSIONS: Healing of simple diaphysial fractures treated by PC-Fix was superior to that achieved by conventional plating. The histological evaluation suggested that the observed differences can be accounted for by the absence of implant-related cortical necrosis and by the circumferentially uninterrupted (if smaller) callus in the PC-Fix group.

Tags: Comparative Study; Female

Descriptors: *Bone Plates; *Bone Remodeling--physiology--PH; *Fracture Fixation, Internal--instrumentation--IS; *Internal Fixators; *Tibial Fractures--surgery--SU; Animals; Disease Models, Animal; Follow-Up Studies; Fracture Fixation, Internal--methods--MT; Fracture Healing--physiology--PH; Prospective Studies; Random Allocation; Sheep; Tibial Fractures--radiography--RA

Record Date Created: 19970326

Record Date Completed: 19970326

18/5/2 (Item 1 from file: 73)
DIALOG(R) File 73:EMBASE
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12005155 EMBASE No: 2003111343

Plate fixation with hydroxyapatite-coated screws: A comparative loaded study

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Clinical Orthopaedics and Related Research (CLIN. ORTHOP. RELAT. RES.)
(United States) 01 MAR 2003, -/408 (262-267)
CODEN: CORTB ISSN: 0009-921X
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 16

The authors evaluated whether AO/ASIF screws coated with hydroxyapatite are better fixed than standard screws in a highly loaded plate fixation animal study. Twelve sheep were divided into two groups. The medial tibial middiaphysis was exposed and a 5-mm long **bone** cylinder was **removed**. The tibiae were **fixed** with six- **hole** dynamic compression plates. Six sheep received standard AO/ASIF stainless steel cortical screws (Group A), and six sheep received AO/ASIF stainless steel cortical screws coated with hydroxyapatite (Group B). Three months after surgery, the sheep were euthanized. The mean screw insertion torque was 4800 +/- 768 N/mm in Group A and 4847 +/- 450 N/mm in Group B. The mean screw extraction torque was 530 +/- 374 N/mm in Group A and 3733 +/- 849 N/mm in Group B. Extraction torque of Group A was significantly lower compared with the corresponding insertion torque. In Group B, there were no differences between extraction and insertion torque. Morphologic analyses showed marked fibrous tissue encapsulation in Group A and bone to screw direct contact in Group B. The results confirm that hydroxyapatite-coated AO/ASIF screws prevent deterioration of screw anchorage, even under highly loaded conditions. By using hydroxyapatite-coated screws, complications resulting from inadequate fixation could be avoided.

DEVICE BRAND NAME/MANUFACTURER NAME: AO/ASIF stainless steel cortical screws/Mathys/Switzerland; Supravit/jri ceramics/United Kingdom
DEVICE MANUFACTURER NAMES: Mathys/Switzerland; jri ceramics/United Kingdom
DRUG DESCRIPTORS:

*hydroxyapatite; *stainless steel

MEDICAL DESCRIPTORS:

*plate fixation; *bone screw

sheep; **fracture fixation**; diaphysis; tibia; bone plate; torque; morphology; encapsulation; fibrosis; bone radiography; cortical bone; biomechanics; outcomes research; nonhuman; female; animal experiment; animal model; controlled study; animal tissue; article; priority journal
CAS REGISTRY NO.: 1306-06-5, 51198-94-8 (hydroxyapatite); 12597-68-1 (stainless steel)

SECTION HEADINGS:

027 Biophysics, Bioengineering and Medical Instrumentation
033 Orthopedic Surgery

18/5/3 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01911216 ORDER NO: AADAA-IC809442

Native bovine bone morphogenetic protein in the healing of segmental long bone defects

Author: Tuominen, Tapio Kalevi

Degree: D.Med.Sc.

Year: 2001

Corporate Source/Institution: Oulun Yliopisto (Finland) (0409)

Source: VOLUME 63/04-C OF DISSERTATION ABSTRACTS INTERNATIONAL.

Descriptors: HEALTH SCIENCES, MEDICINE AND SURGERY

Descriptor Codes: 0564

ISBN: 951-42-6478-9

Publisher: Publication Committee, P.O.B. 7500, FIN-90014 University of Oulu, Finland

A new animal model was developed to evaluate the effect of bovine native bone morphogenetic protein (BMP) on the healing of segmental, critical-sized bone defects. Laboratory-bred adult beagle dogs were used in the study. A 2 cm corticoperiosteal defect was created using an oscillating saw in mid-ulna, and the defect was treated with bone grafts and implants fixed by an intramedullary Kirschner wire through predrilled holes in the middle of the implant. Plate and screw fixation was also used in some groups. Coral, hydroxyapatite and demineralized xenograft bone were placed in the defects with or without BMP. Autografts and allografts were used as controls. The BMP was **extracted** from bovine diaphyseal **bone**.

The follow-up period was 36 weeks. Radiographs were taken at regular intervals during the follow-up period, and bone formation and bone union were evaluated. The radiographs were digitized, and callus was measured and CT scans obtained to define bone density. At the end of the study, the bones were harvested and tested mechanically in a torsion machine until failure. After mechanical testing, the bones were reconstructed and histological sections were made.

With autograft and allograft bone grafts, healing was nearly complete. Hydroxyapatite and demineralized xenograft bone did not result in healing of the bone defect, while coral enhanced bone formation, but the healing was not comparable to autografts or allografts. Hydroxyapatite implants did not resorb during the 36 weeks of follow-up to enhance bone healing, and there was a fibrous capsule around the hydroxyapatite implants in histology. Xenograft bone was resorbed, and very little bone formation and extensive fibrosis were seen at the implant site. Coral was resorbed and gradually replaced by new bone, but did not heal the defect completely. With every implant, added BMP had a positive effect on healing as evaluated either radiographically, mechanically or histologically. Coral was the most optimal carrier material for BMP among the materials tested in this study.

The animal model seems to be suitable for studying the healing of bone defects, as all the animals were physically active from the first postoperative day and did not seem to have problems with motion during the follow-up period. Intramedullary fixation lacks rotational stability, which may have a negative effect on healing. The bones fixed with a plate and screws showed better scores in radiographs and were mechanically stronger, although the study groups were too small to allow definitive conclusions. As a conclusion, none of the transplants or implants were equally efficient as cortical autograft in healing segmental ulnar defects. BMP did not enhance the poor capacity of hydroxyapatite and xenograft bone to heal the bone defect. According to the present findings, the composite implant consisting of coral and BMP seemed to be the best of the composite implants tested.

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23/5/1 (Item 1 from file: 155)
DIALOG(R) File 155:MEDLINE(R)
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12307680 PMID: 9617671

Biodegradable polylactide plates and screws in orthognathic surgery: technical note.

Haers P E; Suuronen R; Lindqvist C; Sailer H
Department of Cranio-Maxillofacial Surgery, University Hospital of Zurich, Switzerland.

Journal of cranio-maxillo-facial surgery - official publication of the European Association for Cranio-Maxillo-Facial Surgery (SCOTLAND) Apr 1998, 26 (2) p87-91, ISSN 1010-5182 Journal Code: 8704309

Publishing Model Print; Comment in J Craniomaxillofac Surg. 1999 Jun;27(3) 198-200; Comment in PMID 10442313

Document type: Case Reports; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

In orthognathic surgery, the bone fragments are usually fixed with metallic plates and screws. Metallic devices other than titanium plates are usually removed after the osteotomy has consolidated, which often requires general anaesthesia. Titanium plates, supposed to be biotolerable, have been introduced in order to overcome this need for secondary intervention. However, due to corrosion, titanium particles have been found in scar tissue covering these plates and in locoregional lymph nodes. Therefore, their removal is also advocated. Self-reinforced poly (L-lactide) homopolymer (PLLA) and poly (L/D-lactide) stereocopolymers with a L/D molar ratio up to 85/15 have sufficient strength to overcome the need for additional support for the **fixation of fractures**. The plates can be bent at room temperature. The surgical technique and early results of a case of bimaxillary surgery and genioplasty **fixed** with bioresorbable material without postoperative rigid maxillomandibular fixation are reported.

Tags: Female

Descriptors: *Biocompatible Materials; *Bone Plates; *Bone Screws; *Jaw Fixation Techniques--instrumentation--IS; *Polyesters; Absorption; Adult; Anesthesia, General; Biocompatible Materials--chemistry--CH; Biodegradation ; Chin--surgery--SU; Corrosion; Dental Alloys--chemistry--CH; Humans; Lymph Nodes--metabolism--ME; Malocclusion, Angle Class II--surgery--SU; Mandible --abnormalities--AB; Mandible--surgery--SU; Maxilla--surgery--SU; Osteotomy--instrumentation--IS; Polyesters--chemistry--CH; Stress, Mechanical; Surface Properties; Temperature; Tissue Distribution; Titanium --chemistry--CH; Titanium--pharmacokinetics--PK

CAS Registry No.: 0 (Biocompatible Materials); 0 (Dental Alloys); 0 (Polyesters); 26969-66-4 (poly(lactide)); 7440-32-6 (Titanium)

Record Date Created: 19980814

Record Date Completed: 19980814

23/5/2 (Item 2 from file: 155)
DIALOG(R) File 155:MEDLINE(R)
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10995549 PMID: 7776049

Use of TiNiCo shape-memory clamps in the surgical treatment of mandibular fractures.

Drugacz J; Lekston Z; Morawiec H; Januszewski K
II Faculty and Clinic of Maxillofacial Surgery, Silesian Academy of Medicine, Katowice, Poland.

Journal of oral and maxillofacial surgery - official journal of the
American Association of Oral and Maxillofacial Surgeons (UNITED STATES)
Jun 1995, 53 (6) p665-71; discussion 672, ISSN 0278-2391
Journal Code: 8206428

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: AIM; DENTAL; INDEX MEDICUS

PURPOSE: This study tested the clinical application of shape-memory
clamps for fixation of mandibular fractures using transoral access.
MATERIALS AND METHODS: Clamps made of Ti50Ni48.7Co1.3 alloy were used to
fix mandible fractures. These clamps automatically recovered their
programmed shape at body temperature. The clamps were used to treat all
types of fractures occurring between the mandibular angles. Postoperative
maxillomandibular fixation was not required. Clamps were removed after a
period of at least 6 weeks, and tissue samples were taken for microscopic
examination. RESULTS: Seventy-seven patients with mandibular fractures were
treated using the shape-memory clamps. There were 19 women and 58 men, from
17 to 74 years old. Altogether 93 fractures were treated, involving 124
clamps. There were 56 cases of single fractures and 21 cases of multiple
fractures. In 72 patients the treatment progressed satisfactorily; in five
cases infections occurred. Histologic examination of tissue taken from 58
patients after removal of the clamps did not indicate any atypical tissue
reactions or signs of disturbed cell maturation. CONCLUSIONS: The
application of shape-memory clamps for surgical treatment of mandible
fractures facilitates treatment while ensuring stable fixation of the **bone
fragments**. No pathologic tissue reactions to the implants were observed
in either animals or humans.

Tags: Female; Male

Descriptors: *Alloys; *Cobalt; *Fracture Fixation, Internal
--instrumentation--IS; *Internal Fixators; *Mandibular Fractures--surgery
--SU; *Nickel; *Titanium; Adolescent; Adult; Aged; Alloys--chemistry--CH;
Biocompatible Materials; Cobalt--chemistry--CH; Collagen; Equipment Design;
Follow-Up Studies; Fracture Fixation, Internal--methods--MT; Fracture
Healing; Granulation Tissue--pathology--PA; Humans; Mandibular Fractures
--pathology--PA; Middle Aged; Nickel--chemistry--CH; Periosteum--pathology
--PA; Surgical Wound Infection--etiology--ET; Titanium--chemistry--CH

CAS Registry No.: 0 (Alloys); 0 (Biocompatible Materials); 0
(titanium-nickel-cobalt alloy); 7440-02-0 (Nickel); 7440-32-6
(Titanium); 7440-48-4 (Cobalt); 9007-34-5 (Collagen)

Record Date Created: 19950710

Record Date Completed: 19950710

23/5/3 (Item 3 from file: 155)

DIALOG(R) File 155: MEDLINE(R)

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10097522 PMID: 8442835

Fixation strengths of patellar tendon-bone grafts.

Matthews L S; Lawrence S J; Yahiro M A; Sinclair M R

Department of Orthopaedic Surgery, Union Memorial Hospital, Baltimore,
Maryland 21218.

Arthroscopy - the journal of arthroscopic & related surgery - official
publication of the Arthroscopy Association of North America and the
International Arthroscopy Association (UNITED STATES) 1993, 9 (1)
p76-81, ISSN 0749-8063 Journal Code: 8506498

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed
Subfile: INDEX MEDICUS

Secure fixation of bone-patellar tendon-bone grafts is essential to allow early joint mobilization after anterior cruciate ligament (ACL) reconstruction surgery. This study was designed to evaluate four fixation methods of patellar tendon-bone grafts in cadaveric knees. Fifty-one fresh cadaveric patellar tendon-bone specimens were anchored in tibial or femoral metaphyseal bone tunnels. Group I grafts were fixed with Kurosaka interference screws. In Group II the grafts were initially fixed as in Group I, but the screws were then removed, the bone plugs repositioned, and the grafts resecured with screws. In Group III the grafts were anchored with three no. 2 nonabsorbable sutures tied over a screw and washer, whereas in Group IV no. 5 nonabsorbable sutures were used. Each bone specimen was mounted in the biomechanical testing machine, and a vertical tensile load was applied at a strain rate of 51 cm/min until failure of fixation, bone plug fracture, or tendon disruption occurred. The mean force to failure in Groups I, II, III, and IV were 435.0 N, 458.2 N, 454.2 N, and 415.8 N, respectively. There was no significant difference in the force to failure among the four methods of fixation. However, the modes of failure were diverse. In three specimens the Kurosaka screws diverged from the plugs and failed to achieve fixation. These specimens were excluded and will be discussed separately. Although technique-related difficulties may arise, interference screw fixation of patellar tendon-bone grafts affords strong graft fixation--often stronger than the graft itself. Secondary screw fixation appears to be equal in strength to primary screw fixation. (ABSTRACT TRUNCATED AT 250 WORDS)

Tags: Comparative Study

Descriptors: *Anterior Cruciate Ligament--physiopathology--PP; *Bone Transplantation; *Patella--physiopathology--PP; *Tendons--physiopathology--PP; Adult; Anterior Cruciate Ligament--surgery--SU; Biomechanics; Bone Screws; Cadaver; Evaluation Studies; Humans; Patella--surgery--SU; Tendons--transplantation--TR

Record Date Created: 19930405

Record Date Completed: 19930405

23/5/4 (Item 1 from file: 94)

DIALOG(R) File 94:JICST-Eplus

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04880552 JICST ACCESSION NUMBER: 01A0377505 FILE SEGMENT: JICST-E

Supracondylar fracture of the femur after treating of floating knee fractures, treated successfully with bone transport using external fixators and an intramedullary nail. A case report.

YOKOO NAOKI (1); KOSHINO TOMIHISA (1); SAITO TOMOYUKI (1); MITSUHASHI SHIGEYUKI (1); TAKEUCHI RYOHEI (1); YAMAMOTO KAZUYOSHI (1)

(1) Yokohamashidai Seikeigeka

Nihon Sogai Kotei. Hone Encho Gakkai Zasshi(Journal of the Japanese Association of External Fixation and Limb Lengthening), 2001, VOL.12, PAGE.153-157, FIG.6, REF.8

JOURNAL NUMBER: L0814ABH ISSN NO: 1342-3495

UNIVERSAL DECIMAL CLASSIFICATION: 616.7-089

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: A 48-year-old drunken man fell from a station platform and was run over by a train. He had a right floating knee with comminuted fractures in the femoral condyle and the distal tibia, and was conveyed

to an emergency center. The distal femur was treated with an **intramedullary nailing** and the distal tibia with Illizarov external fixation. Although the tibia achieved complete union, the femur failed to unite resulting in non-union. Eighteen months after the initial surgery, he had sudden severe pain and swelling above his right knee. At the time of his visit to our hospital, a radiogram of his right femur showed a supracondylar fracture with a broken **intramedullary nail**. During surgery, a broken nail and a dead bone of about 8 cm were **removed**. A narrow **intramedullary nail** was inserted to bridge over this **bone gap**. Only the proximal trochanteric **fragment** was **fixed** with a screw, and Orthofix external fixators were applied to the proximal and the distal fragments to connect them, and then osteotomy was carried out beneath the lesser trochanter for **bone transport**. The **bone fragment** was transported for 180 days, the distal end of the nail was **fixed** to the femoral condyle with two screws and the external fixator was **removed**. A massive bone graft consisting of cancellous and cortical bone taken from an iliac crest was transplanted at the distal end of the transported bone. At 16 months, bone union was well established at the distal end of the transported bone. During the bone transport and after **removal** of the external fixator, the alignment of the femur was well maintained and there was no length discrepancy between the limbs. This operative procedure combined with an external fixator and **intramedullary nail** was quite useful to treat nonunion after severe comminuted fracture. (author abst.)

DESCRIPTORS: fracture(disease); orthopedic fixation device; intramedullary fracture fixation; femur; patella; osteography; human(primates); case report; adult(person); man; bone transplantation; bone lengthening; fracture fixation; bone of leg

IDENTIFIERS: external fixation; leg bone; flail knee

BROADER DESCRIPTORS: injury(disease); damage and injury; disease; bone disease; bone and joint disease; fixture(utensil); utensil; orthopedic equipment; medical equipment; internal fracture fixation; orthopedic surgery; operative surgery; bone; skeleton; musculoskeletal system; X-ray inspection; radiographic inspection; nondestructive inspection; inspection; radiography; image technology; technology; diagnostic imaging; diagnosis; reporting; action and behavior; growth stage; human(sociology); maleness; sex; tissue transplantation; transplantation

CLASSIFICATION CODE(S): GG050300

23/5/5 (Item 2 from file: 94)

DIALOG(R) File 94:JICST-Eplus

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04880549 JICST ACCESSION NUMBER: 01A0377502 FILE SEGMENT: JICST-E

Treatment of osteomyelitis in the proximal tibia with a comminuted fracture and skin defect.

OSHIMA YASUSHI (1); KIM W C (1); WATANABE YOSHINOBU (1); NAGAOKA TAKANORI (1); KANEMITSU KYOGOKU (1); TAKENAKA NOBUYUKI (1); HIRASAWA YASUSUKE (1)

(1) Kyotofuidai Seikeigekagakukyoshitsu

Nihon Sogai Kotei. Hone Encho Gakkai Zasshi(Journal of the Japanese

Association of External Fixation and Limb Lengthening), 2001, VOL.12,

PAGE.137-140, FIG.8, TBL.1, REF.4

JOURNAL NUMBER: L0814ABH ISSN NO: 1342-3495

UNIVERSAL DECIMAL CLASSIFICATION: 616.7-089

LANGUAGE: Japanese

COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: When treating osteomyelitis in the proximal tibia with comminuted fractures, it is difficult to preserve the tibial tuberosity including the patella tendon. A long period is necessary in treating this type of osteomyelitis. When the infected area spreads to the knee joint, arthrodesis of the knee joint is often required. We experienced a case of osteomyelitis in the proximal tibia with a comminuted fracture and skin defect. The patient was a 32 -year-old male, who had failed landing with a hang glider and had suffered the proximal tibial comminuted **fracture** . The internal **fixation** with plates and screws was performed at another hospital, but ~~a circulation disorder of the leg occurred after the operation.~~ The occlusion of the popliteal artery ~~had been diagnosed~~ from the results of angiography. Vascular reconstructive surgery with an artificial blood vessel was done 2 days later. However skin and bone necrosis of the proximal tibia occurred and it had developed to osteomyelitis. The patient then was referred to our hospital 2 months after the initial injury. We treated him using the Papineau I, **removal** of a part of the internal fixators and focal curettage. The posterior cortex and tuberosity of the tibia was preserved as much as possible and the tibia was **fixed** with an Ilizarov external fixator. Three weeks after the Papineau I, we performed the Papineau II with autologus iliac bone graft. Seven weeks after the Papineau II, the Papineau III, full-thickness skin graft, was carried out. Partial weight bearing was allowed at the early stage. Seven months after the Papineau I, the Ilizarov external fixator was **removed** and the patient was able to walk with a PTB brace and a crutch. In this case, because an artificial blood vessel had been used, vascularized musculocutaneous flap, bone transport or contact distraction were impossible, and we chose the Papineau method. It was difficult to **fix** all the **bone fragments** (author abst.)

DESCRIPTORS: tibia; fracture(disease); human(primates); osteomyelitis; necrosis; bone transplantation; skin grafting; artificial blood vessel; blood vessel prosthesis; case report; adult(person); man; complication; osteography; fracture fixation

IDENTIFIERS: comminuted fracture; external fixation

BROADER DESCRIPTORS: bone of leg; bone; skeleton; musculoskeletal system; injury(disease); damage and injury; disease; bone disease; bone and joint disease; inflammation; infectious disease; bone marrow disease; hematologic disease; symptom; orthopedic surgery; operative surgery; tissue transplantation; transplantation; artificial implant; artificial organ; artificial biosystem; equipment; vascular surgery; cardiovascular surgery; reconstructive surgery; prosthesis; therapy; reporting; action and behavior; growth stage; human(sociology); maleness; sex; X-ray inspection; radiographic inspection; nondestructive inspection; inspection; radiography; image technology; technology; diagnostic imaging; diagnosis

CLASSIFICATION CODE(S): GG050300

23/5/6 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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12123609 PASCAL No.: 95-0354435

Use of TiNiCo shape-memory clamps in the surgical treatment of mandibular fractures. Discussion

DRUGACZ J; LEKSTON Z; MORAWIEC H; JANUSZEWSKI K; ALTABELLI D E comment

Silesian acad. medicine, II fac. clin. maxillofacial surgery, 40-027

Katowice, Poland

Journal: Journal of oral and maxillofacial surgery, 1995, 53 (6) 665-672

ISSN: 0278-2391 CODEN: JOMSDA Availability: INIST-3005;

354000051021090050

No. of Refs.: 28 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

Purpose: This study tested the clinical application of shape-memory clamps for fixation of mandibular fractures using transoral access. Materials and Methods: Clamps made of Ti SUB 5 SUB 0 Ni SUB 4 SUB 8 SUB . SUB 7 Co SUB 1 SUB . SUB 3 alloy were used to fix mandible fractures. These clamps automatically recovered their programmed shape at body temperature. The clamps were used to treat all types of fractures occurring between the mandibular angles. Postoperative maxillomandibular fixation was not required. Clamps were removed after a period of at least 6 weeks, and tissue samples were taken for microscopic examination. Results: Seventy-seven patients with mandibular fractures were treated using the shape-memory clamps. There were 19 women and 58 men, from 17 to 74 years old. Altogether 93 fractures were treated, involving 124 clamps. There were 56 cases of single fractures and 21 cases of multiple fractures. In 72 patients the treatment progressed satisfactorily; in five cases infections occurred. Histologic examination of tissue taken from 58 patients after removal of the clamps did not indicate any atypical tissue reactions or signs of disturbed cell maturation. Conclusions: The application of shape-memory clamps for surgical treatment of mandible fractures facilitates treatment while ensuring stable fixation of the **bone fragments** . No pathologic tissue reactions to the implants were observed in either animals or humans

English Descriptors: Fracture; Mandible; Surgery; Technique; Clamp(surgery)
; Titanium; Nickel; Implant; Biomaterial; Heavy metal

Broad Descriptors: Diseases of the osteoarticular system; Trauma;
Stomatology; Maxillary disease; Systeme osteoarticulaire pathologie;
Traumatisme; Stomatologie; Maxillaire pathologie; Sistema osteoarticular
patologia; Traumatismo; Estomatologia; Maxilar patologia

French Descriptors: Fracture; Mandibule; Chirurgie; Technique; Clamp;
Titane; Nickel; Implant; Biomateriau; Metal lourd

Classification Codes: 002B16D

?

28/5/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2005 Dialog. All rts. reserv.

13940725 PMID: 11694938

A simple technique for arthroscopic suture fixation of displaced fracture of the intercondylar eminence of the tibia using folded surgical steels.

Oohashi Y

Oohashi Orthopaedic Clinic, Fukui, Japan. oohashiy@lilac.ocn.ne.jp

Arthroscopy - the journal of arthroscopic & related surgery - official publication of the Arthroscopy Association of North America and the International Arthroscopy Association (United States) Nov-Dec 2001, 17 (9) p1007-11, ISSN 1526-3231 Journal Code: 8506498

Publishing Model Print

Document type: Case Reports; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

SUMMARY: The purpose of this article is to describe a new and simple technique for arthroscopic suture fixation of avulsion fractures of the intercondylar eminence of the tibia using surgical steels as both suture passers and suture. The looped ends of 2 folded surgical steels being used as suture passers were inserted through 2 tibial drill holes and through the reduced **bone fragment** into the knee joint cavity and pulled out through the anteromedial **portal** in front of the knee joint. Outside the knee joint, a third unbent surgical steel to be used as a suture was tied to the 2 small loops of the folded surgical steels very easily. The ends of the folded surgical steels outside the tibia were then retracted back through the tibial drill **holes**, thereby automatically bringing the third surgical steel through the **holes** while making a loop over the avulsed fragment. The advantage of this technique is that the suture can be tied to the suture passers outside of the knee joint.

Tags: Female

Descriptors: *Arthroscopy--methods--MT; *Steel; *Suture Techniques; *Tibial Fractures--surgery--SU; Adult; Humans; Knee Joint--physiopathology--PP; Range of Motion, Articular; Skiing--injuries--IN; Tibial Fractures--radiography--RA; Tibial Fractures--rehabilitation--RH

CAS Registry No.: 12597-69-2 (Steel)

Record Date Created: 20011105

Record Date Completed: 20020319

28/5/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2005 Dialog. All rts. reserv.

13087823 PMID: 11061459

Plugging the intramedullary canal of the femur in total knee arthroplasty: reduction in postoperative blood loss.

Kumar N; Saleh J; Gardiner E; Devadoss V G; Howell F R

Department of Orthopaedics, Hull Royal Infirmary, United Kingdom.

Journal of arthroplasty (UNITED STATES) Oct 2000, 15 (7) p947-9, ISSN 0883-5403 Journal Code: 8703515

Publishing Model Print

Document type: Clinical Trial; Journal Article; Randomized Controlled Trial

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

A prospective, randomized trial comparing postoperative drainage was carried out in 120 consecutive knees undergoing total knee arthroplasties divided into 2 groups. In one (55 knees), the entry point for the femoral intramedullary rod was left open. In the other (65 knees), the entry point was closed by an autologous bone plug. The mean drainage after 24 hours and the total drainage were lower when the femoral canal was plugged (800 vs 960 mL and 925 vs 1,165 mL). The bone plug always united, and no loose bodies were seen 6 months after operation. We conclude that the **femoral intramedullary guide hole** should be **plugged** with autologous **bone** because this technique results in a small but significant reduction in early blood loss without countervailing disadvantages.

Tags: Comparative Study; Female; Male

Descriptors: *Arthroplasty, Replacement, Knee--methods--MT; *Postoperative Hemorrhage--prevention and control--PC; Adult; Aged; Aged, 80 and over; Drainage--methods--MT; Femur; Humans; Middle Aged; Prospective Studies

Record Date Created: 20010223

Record Date Completed: 20010301

28/5/3 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

11949371 PMID: 9231179

[Treatment of metaphyseal fractures of the tibia by the Ilizarov external fixator]

Traitement des fractures metaphysaires proximales du tibia par fixateur externe d'Ilizarov.

de la Caffiniere J Y; Zeitoun J M; Segonds J M; Lacaze F

Service de Chirurgie Orthopedique et Traumatologique, CHG de Saint-Denis.

Revue de chirurgie orthopedique et reparatrice de l'appareil moteur (FRANCE) 1997, 83 (2) p123-32, ISSN 0035-1040 Journal Code: 1272427

Publishing Model Print

Document type: Journal Article ; English Abstract

Languages: FRENCH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

PURPOSE: This external fixation was used for 46 of 60 cases of proximal tibial metaphyseal fractures, over a 10 years period. The choice of an external fixation was determined by the poor reputation of internal fixation for even complex closed fractures. The reasons for the choice of the Ilizarov device were: the possibility of fitting the fixation pins close to the knee joint if necessary, the circular nature of the system, and finally the possibility of adding an intrafocal mounting (I.F.M.) which can bring the displaced bone fragments together using shaped blockstops pins. The program theoretically foresaw an initial sequence using external fixation until bone continuity was achieved, followed by a complementary plaster for one or two months. MATERIALS: 7 of the 46 fractures were lost for follow-up. Of the remaining 39 cases, there were 5 early complications: one knee septic arthritis which led to stop the method before the second month. Each of these 5 failures were due to improper use of the method. 34 cases have been followed for more than two years. RESULTS: 29 cases of consolidation of which 3 initial displacements were wrongly considered as acceptable. There was no case of displacement while the fixation was in place. There were 5 nonunions: 2 at the diaphyseal level in long metaphyso-diaphyseal fractures, 2 were comminutive metaphyseal fractures in which the fixation had been removed by error before the third month. With this fixation, neither the traumatic opening, nor the presence of a fibular

fracture significantly affected consolidation. The healing period was however longer when the fracture was more extensive and comminutive. The bone gaps were treated by interfocal mounting (I.F.M.) but loss of bone stock persisted; they affected the occurrence of nonunion. CONCLUSION: Each failure of the method is explained by its improper use. The Ilizarov fixation is an excellent mechanical response to these fractures: on condition that the technical rules are respected, that an intrafocal mounting is used to remove interfragmentary gaps, and that the fixator is kept in place long enough, according to the size and comminutive nature of the **fracture**. This **fixation** is reliable in these conditions but does not compensate intrafocal bone loss exceeding 40 per cent of the metaphyseal bone mass.

Tags: Female; Male

Descriptors: *External Fixators; *Tibial Fractures--surgery--SU; Adult; External Fixators--adverse effects--AE; Follow-Up Studies; Fractures, Comminuted--surgery--SU; Humans; Middle Aged; Physical Therapy Techniques; Prognosis; Pseudarthrosis--etiology--ET

Record Date Created: 19970804

Record Date Completed: 19970804

28/5/4 (Item 4 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

11193710 PMID: 7490629

Cannulated screws for odontoid screw fixation and atlantoaxial transarticular screw fixation. Technical note.

Dickman C A; Foley K T; Sonntag V K; Smith M M

Division of Neurological Surgery, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, Arizona, USA.

Journal of neurosurgery (UNITED STATES) Dec 1995, 83 (6) p1095-100, ISSN 0022-3085 Journal Code: 0253357

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: AIM; INDEX MEDICUS

Cannulated screw systems use thin Kirschner wires (K-wires) that have been drilled into the bone to direct screw trajectories accurately into small bone fragments. Use of the K-wires avoids overdrilling the pilot holes and allows fixation of adjacent bone fragments during screw insertion. Hollow tools and hollow screws are inserted into the bone over the K-wires. Cannulated screw fixation is useful in the cervical spine to stabilize odontoid fractures and to treat atlantoaxial instability. This report describes techniques for successful cannulated screw insertion and methods to minimize complications. Cannulated screws have several distinct advantages compared to noncannulated screws: 1) the K-wires guide the screw position into the bone; 2) the K-wire trajectory can be repositioned easily if the original trajectory was not ideal; 3) the K-wires allow continuous fixation of adjacent unstable bone fragments; and 4) the K-wires prevent migration of unstable bone fragments during screw insertion. Complications associated with the K-wire (breakage, repositioning, and advancement) can be minimized using precise operative techniques, a specialized tool system, and intraoperative fluoroscopic monitoring. A unique cannulated screw tool system was developed specifically for upper cervical fixation to allow percutaneous drilling using long tunneling devices, tissue sheaths, drill guides, and long K-wires. These tools allow delivery of cannulated **fracture - fixation** screws at a low angle to the spine through long soft-tissue trajectories. Cannulated screws have significant advantages

compared to noncannulated screws for fixation of the unstable cervical spine.

Descriptors: *Bone Screws; *Cervical Vertebrae; *Fracture Fixation
--methods--MT; *Odontoid Process--injuries--IN; *Spinal Fractures--therapy
--TH; Bone Wires; Catheterization; Cervical Vertebrae--surgery--SU;
Fluoroscopy; Humans; Odontoid Process--surgery--SU; Tomography, X-Ray
Computed

Record Date Created: 19960102

Record Date Completed: 19960102

28/5/5 (Item 5 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

10613774 PMID: 8003155

Arthroscopic reduction and fixation of a completely displaced fracture of the intercondylar eminence of the tibia.

Kobayashi S; Terayama K

Department of Orthopaedic Surgery, Shinshu University School of Medicine, Matsumoto, Japan.

Arthroscopy - the journal of arthroscopic & related surgery - official publication of the Arthroscopy Association of North America and the International Arthroscopy Association (UNITED STATES) Apr 1994, 10 (2) p231-5, ISSN 0749-8063 Journal Code: 8506498

Publishing Model Print

Document type: Case Reports; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

A simple method of arthroscopic reduction and fixation of a fracture of the intercondylar eminence of the tibia is described. A 23-year-old man with a completely displaced (Type IIIB) fracture was treated with arthroscopy. A satisfactory reduction was achieved by releasing the medial meniscus, which was entrapped in the fracture site. Link dynamic staples (W. Link, Hamburg, Germany) were used to firmly fix the fracture when the guide tube came downward from the medial mid-patellar portal. The secure fixation of the fragment and the prevention of the need for an arthrotomy facilitated early functional rehabilitation. One year after surgery the patient had a stable, painless joint with a full range of motion. The described method is technically straight-forward and can provide secure fixation of a **bone fragment**. The Link staples are useful in the fixation of a displaced fracture of the intercondylar eminence of the tibia.

Tags: Male

Descriptors: *Skiing--injuries--IN; *Tibial Fractures--surgery--SU; Adult
; Arthroscopy--methods--MT; Fracture Fixation, Internal--methods--MT;
Humans; Internal Fixators; Surgical Stapling; Tibial Fractures--etiology
--ET

Record Date Created: 19940718

Record Date Completed: 19940718

28/5/6 (Item 6 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

09266058 PMID: 2128317

Influence of resorbable poly(L-lactide) bone plates and screws on the dose distributions of radiotherapy beams.

Rozema F R; Levendag P C; Bos R R; Boering G; Pennings A J
Department of Oral and Maxillofacial Surgery, University Hospital
Groningen, The Netherlands.

International journal of oral and maxillofacial surgery (DENMARK) Dec
1990, 19 (6) p374-6, ISSN 0901-5027 Journal Code: 8605826

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: DENTAL; INDEX MEDICUS

Metallic bone plates have been shown to affect radiation in vitro. Although no damage has ever been demonstrated in vivo these plates may cause dose enhancements and shielding of the adjacent tissue. Resorbable high molecular weight as-polymerized poly(L-lactide) (PLLA) bone plates have recently been used for reconstruction in the maxillofacial area. To determine their influence on dose distribution, a 4-hole bone plate and screws of PLLA were exposed to electron and photon beams. A tissue-equivalent phantom of perspex was irradiated and measurements were made with LiF thermoluminescent dosimeters. No significant changes in dose deviations could be determined when the dose distribution in the homogeneous phantom was compared with that of the phantom in which the PLLA material was placed. From this study it can be concluded that the PLLA material can be regarded as tissue-equivalent and can, thus, be safely used for fracture fixation of **bone fragments** when postoperative irradiation is anticipated.

Descriptors: *Bone Plates; *Bone Screws; *Lithium Compounds; *Polyesters; *Radiotherapy Dosage; *Radiotherapy, High-Energy; Electrons; Fluorides --radiation effects--RE; Humans; Lithium--radiation effects--RE; Methylmethacrylates; Models, Structural; Nylons; Radiation; Scattering, Radiation; Thermoluminescent Dosimetry

CAS Registry No.: 0 (Fluorides); 0 (Lithium Compounds); 0 (Methylmethacrylates); 0 (Nylons); 0 (Polyesters); 26969-66-4 (poly(lactide)); 7439-93-2 (Lithium); 7789-24-4 (lithium fluoride)

Record Date Created: 19910523

Record Date Completed: 19910523

28/5/7 (Item 7 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

09178250 PMID: 2247781

[Multiple recurrence of tibial fracture]

Mehrfachrefraktur der Tibia.

Ballmer F T; Ganz R

Universitätsklinik für Orthopädische Chirurgie, Inselspital, Bern.

Der Unfallchirurg (GERMANY) Oct 1990, 93 (10) p473-8, ISSN

0177-5537 Journal Code: 8502736

Publishing Model Print

Document type: Case Reports; Journal Article ; English Abstract

Languages: GERMAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

After a historical review of the term refracture and the related nomenclature, three cases of multiple refracture of the tibia are presented. Radiological findings confirm that the major etiology in refracture is bone necrosis as a result of vascular damage caused by the initial trauma and/or the surgical maneuvers performed to treat it. Normal loads then lead to microfractures of the avascular bone, which is unable to

provide adequate substitution or remodelling. In our three cases not only was the periosteal blood supply diminished, but also the medullary canal was narrowed or closed at the fracture site by bone fragments and/or poorly vascularized new bone formation. These pathogenetic findings are supported by experimental studies. Part of the logical therapeutic concept is the opening of the medullary canal and closed **medullary nailing**. Although reaming and **intramedullary rod** placement causes transient circulatory disturbances in the inner diaphyseal cortex, this allows restoration of the medullary vascular network. Bone perfusion of the refracture zone is thereby improved and definitive consolidation can take place, as shown in our three cases.

Tags: Male

Descriptors: *Osteonecrosis--complications--CO; *Tibial Fractures
--etiology--ET; Adult; Bone Plates; Bone Screws; Fracture Fixation,
Intramedullary; Humans; Recurrence; Tibial Fractures--radiography--RA;
Tibial Fractures--surgery--SU

Record Date Created: 19910107

Record Date Completed: 19910107

28/5/8 (Item 8 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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08635144 PMID: 2734960

[Detection of bone marrow embolism in femoral intramedullary nailing using transesophageal echocardiography]

Nachweis von Markembolien wahrend Oberschenkelmarknagelungen mittels transesophagealer Echokardiographie.

Wenda K; Henrichs K J; Biegler M; Erbel R

Klinik und Poliklinik fur Unfallchirurgie, Universitätsklinikums Mainz.

Unfallchirurgie (GERMANY, WEST) Apr 1989, 15 (2) p73-6, ISSN
0340-2649 Journal Code: 7909168

Publishing Model Print

Document type: Case Reports; Journal Article ; English Abstract

Languages: GERMAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

Cardiopulmonary complications are known in intramedullary nailing, especially of the femur. Transesophageal echocardiography now allow intraoperative detection of embolized bone-marrow, recognizable as reflecting particles in the right atrium. In intramedullary nailing of a femoral fracture with a closed distal fragment bone-marrow embolism was detectable in the right atrium during reaming of the medullary canal. This technique should permit further research on the pathophysiology of pulmonary alterations during intramedullary nailing and also testing the effectiveness of pressure-relief in the medullary canal as proposed by drilling a bone- hole .

Tags: Female

Descriptors: *Bone Marrow; *Echocardiography; *Embolism--diagnosis--DI;
*Fracture Fixation, Intramedullary; *Heart Atria--pathology--PA; *Heart
Diseases--diagnosis--DI; *Intraoperative Complications--diagnosis--DI;
Adult; Echocardiography--instrumentation--IS; Esophagus; Humans; Pulmonary
Embolism--diagnosis--DI

Record Date Created: 19890721

Record Date Completed: 19890721

28/5/9 (Item 9 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 Dialog. All rts. reserv.

08149278 PMID: 3454943

Transfixion rod in condylar and intercondylar fractures of femur.

Lewert A H; Modny M T

Queens General Hospital Center, New York City.

Orthopaedic review (UNITED STATES) May 1987, 16 (5) p310-6, ISSN

0094-6591 Journal Code: 0431766

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

The transfixion rod has been used in the treatment of supracondylar fractures of the femur to organize comminuted condylar fragments about a stable, intramedullary insertion of the rod. Using a cantilever principle, the fixation of the comminuted fragments with bolts produce a stable organization permitting immediate mobilization of the knee joint. The four-flanged design of the rod prevents torsion and the multiplicity of **holes** in the rod permits rapid revascularization and bony healing.

Descriptors: *Femoral Fractures--surgery--SU; *Fracture Fixation, Intramedullary--instrumentation--IS; Femoral Fractures--radiography--RA; Fracture Fixation, Intramedullary--methods--MT; Humans; Postoperative Care

Record Date Created: 19881004

Record Date Completed: 19881004

28/5/10 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0014641975 BIOSIS NO.: 200400022732

Fixation device

AUTHOR: Ip Wing-Yuk (Reprint); Lau Ting-Lai

AUTHOR ADDRESS: Hong Kong, China**China

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1276 (4): Nov. 25, 2003 2003

MEDIUM: e-file

PATENT NUMBER: US 6652530 PATENT DATE GRANTED: November 25, 2003 20031125

PATENT CLASSIFICATION: 606-69 PATENT ASSIGNEE: The University of Hong

Kong, Hong Kong PATENT COUNTRY: USA

ISSN: 0098-1133 _(ISSN print)

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The present invention relates to a fixation device for internally fixing fractures. The fixation device has an elongated support plate and a transverse plate and a fin member extending transversely from the elongated support plate. The elongated support plate and the transverse plate define a plurality of holes for receiving fixing elements to mount the fixation device onto a bone. The holes can be so located that the fixing elements can prevent the fixation device from rotating relatively to the bone after the fixation device is mounted onto the bone. Additionally, the fin member is formed to be more flexible than the transverse plate. Thereby, the fin member can be bent to conform to the contour of the bone for fixing or stabilizing a fractured fragment. As a result, the fixation device can both support the injured **bone** and fix/stabilize the fractured **fragment** .

DESCRIPTORS:

MAJOR CONCEPTS: Equipment Apparatus Devices and Instrumentation; Skeletal System--Movement and Support

ORGANISMS: PARTS ETC: bone--skeletal system

METHODS & EQUIPMENT: fixation device--laboratory equipment; transverse plate--laboratory equipment

MISCELLANEOUS TERMS: fin member

CONCEPT CODES:

18004 Bones, joints, fasciae, connective and adipose tissue - Physiology and biochemistry

28/5/11 (Item 2 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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0014395723 BIOSIS NO.: 200300354442

Device for external fixation of a fractured radius with simultaneous clamping of multiple pins and with a fixture for applying extension to distal bone fragments

AUTHOR: Hajianpour Mohammed A (Reprint)

AUTHOR ADDRESS: 1706 Vestal Dr., Coral Springs, FL, 33065, USA**USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1272 (1): July 1, 2003 2003

MEDIUM: e-file

PATENT NUMBER: US 6585736 PATENT DATE GRANTED: July 01, 2003 20030701

PATENT CLASSIFICATION: 606-57 PATENT COUNTRY: USA

ISSN: 0098-1133 (ISSN print)

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A fixture is configured to provide external fixation of a fractured distal radius by including a first number of holes for pins extending downward from the fixture into one or more **bone fragments** and a second number of **holes** for pins extending downward from the fixture into the shank of the radius. The fixture also includes a sliding block through which rods extend to hold pins directed laterally into the fragment(s). A sliding plate including a number of **holes** aligned with the first number of **holes** is moved by a pair of setscrews to clamp the pins extending through the first number of **holes**. The second number of **holes** includes a **hole** within a sliding structure allowing a single pin to be moved with a fixture to provide extension between the fragments and the shank of the radius.

DESCRIPTORS:

MAJOR CONCEPTS: Biomedical Engineering--Allied Medical Sciences; Methods and Techniques; Orthopedics--Human Medicine, Medical Sciences

DISEASES: fractured radius--bone disease, injury, therapy

METHODS & EQUIPMENT: external fixation device--medical equipment; simultaneous multiple pin clamping--clinical techniques, therapeutic and prophylactic techniques; distal bone fragment extension application fixture--medical equipment

CONCEPT CODES:

10511 Biophysics - Bioengineering

12512 Pathology - Therapy

18006 Bones, joints, fasciae, connective and adipose tissue - Pathology

28/5/12 (Item 3 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
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0012663398 BIOSIS NO.: 200000381711

Mechanical system for blind nail-hole alignment of bone screws

AUTHOR: Faccioli Giovanni (Reprint); Rossi Stefano

AUTHOR ADDRESS: Monzambano, Italy**Italy

JOURNAL: Official Gazette of the United States Patent and Trademark Office
Patents 1231 (4): Feb. 22, 2000 2000

MEDIUM: e-file

PATENT NUMBER: US 6027506 PATENT DATE GRANTED: February 22, 2000 20000222

PATENT CLASSIFICATION: 606-98 PATENT ASSIGNEE: Orthofix, S.r.l., Verona,
Italy PATENT COUNTRY: USA

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: An all-mechanical system for bone-drilling alignment of a blind distal bone-screw hole of an installed intra-medullary nail, wherein the system provides (i) a drill jig that features a longitudinally adjustable nail-contactable contact-rod mounting in the jig and (ii) a drill-guide which can align with the blind distal bone-screw hole for a correct nail-contactable adjustment of the contact rod. The system enables the surgeon to check-out the drill jig in assembled relation to a selected intramedullary nail, prior to nail installation, and to perform an adjustment to compensate for nail diameter when the contact end of the rod engages the nail. He can then either visually satisfy himself of the drill-guide/bolt-hole alignment, or he can use a plug-gage or trocar tool having guidance in the drill guide, and checking for whether the **plug gage** has entry into the **bone -screw hole** in the **intramedullary nail**. Having thus ascertained that the adjusted contact-rod position can correctly identify drill-guide alignment with one or more bone-screw **holes** of the **intramedullary nail**, it is only necessary, after installing the nail and connecting the jig to the proximal end of the nail, to make a small local surgical incision through flesh and bone sufficient to enable direct stabilizing (contact-rod) contact with the nail, whereupon it is known that the drill guides are in correctly drillable alignment with the targeted bone-screw **holes** of the installed nail. Drilling and setting of bone screws can immediately proceed in customary manner.

DESCRIPTORS:

MAJOR CONCEPTS: Equipment, Apparatus, Devices and Instrumentation;

Skeletal System--Movement and Support

ORGANISMS: PARTS ETC: bone--skeletal system

METHODS & EQUIPMENT: blind nail-hole alignment mechanical system--medical equipment; bone screws--medical equipment

CONCEPT CODES:

00532 General biology - Miscellaneous

28/5/13 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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12303363 EMBASE No: 2003416706

Intramedullary fixation of intertrochanteric fractures with the proximal femoral nail (PFN)

DIE INTRAMEDULLARE OSTEOSYNTHESE DER PERTROCHANTAREN FEMURFRANKTUR MIT DEM PROXIMALEN FERMURNAGEL (PFN)

Verheyden A.P.; Josten C.

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Operative Orthopädie und Traumatologie (OPER. ORTHOP. TRAUMATOL.) (Germany) 01 MAR 2003, 15/1 (20-37)

CODEN: OOTPA ISSN: 0934-6694

DOCUMENT TYPE: Journal ; Article

LANGUAGE: GERMAN; ENGLISH SUMMARY LANGUAGE: GERMAN; ENGLISH

NUMBER OF REFERENCES: 20

Objective. Minimally invasive internal fixation of inter- and subtrochanteric fractures allowing early weight bearing. Restoration of shape and early return to function of the lower limb. Indications. All inter- and subtrochanteric fractures of AO type 31.A. Femoral neck and intertrochanteric fractures; associated with proximal femoral fractures; in these instances, a longer nail is used. Contraindications. Marked ipsilateral coxofemoral osteoarthritis. Open physes. Surgical Technique. Reduction of fracture on fracture table. Stab incision. Unreamed **intramedullary nailing**. Insertion of femoral neck and antirotation screws over guide wires for dynamic fixation of **femoral neck/head fragment** ensuring stability in rotation. Possibility of dynamic or static locking at diaphyseal level. Results. Between January 1, 1996 and March 31, 1999, the described system was used in 231 patients (74.2% women, 25.8 men, average age 78.1 years). 2.1% intraoperative complications: three inadequate reductions, one antirotation screw implanted too deeply, one wrong placement of distal femoral drill **hole**. 9.5% postoperative complications related to surgery: three avulsions of implant, one femoral fracture, 14 hematomas or seromas, four deep infections. Follow-up after 12 months in 76.3% of patients: 63.4% personal postoperative assessment, 12.9% information supplied by family physician. Mortality: 17.5%. Impossible to reach: 6.2% of patients. Late complications in 6.2% of followed-up patients: nine migrating antirotation screws, two late infections. Bony consolidation in all patients, no nonunion. Merle d'Aubigne score: 34.2% excellent, 49.3% good, 13.7% satisfactory, 2.7% poor.

MEDICAL DESCRIPTORS:

*intramedullary nailing; *femur intertrochanteric fracture--surgery--su minimally invasive surgery; femur subtrochanteric fracture--surgery--su; weight bearing; treatment indication; femur neck fracture--surgery--su; femur fracture--complication--co; femur fracture--surgery--su; treatment contraindication; coxitis; surgical technique; fracture reduction; bone screw; guide wire; joint stability; rotation; diaphysis; hematoma --complication--co; seroma--complication--co; postoperative infection --complication--co; abscess--complication--co; follow up; surgical mortality; treatment outcome; patient satisfaction; human; male; female; major clinical study; controlled study; aged; adult; article; priority journal

SECTION HEADINGS:

033 Orthopedic Surgery

28/5/14 (Item 2 from file: 73)

DIALOG(R) File 73:EMBASE

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06844467 EMBASE No: 1997127023

Use of Ilizarov external fixator for proximal tibial metaphyseal fractures

TRAITEMENT DES FRACTURES METAPHYSAIRES PROXIMALES DU TIBIA PAR FIXATEUR EXTERNE D'ILIZAROV

De La Caffiniere J.Y.; Zeitoun J.M.; Segonds J.M.; Lacaze F.

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Revue de Chirurgie Orthopedique et Reparatrice de l'Appareil Moteur (REV. CHIR. ORTHOP. REPAR. APPAR. MOT.) (France) 1997, 83/2 (123-132)
CODEN: RCORA ISSN: 0035-1040
DOCUMENT TYPE: Journal; Article
LANGUAGE: FRENCH SUMMARY LANGUAGE: ENGLISH; FRENCH
NUMBER OF REFERENCES: 11

Purpose: This external fixation was used for 46 of 60 cases of proximal tibial metaphyseal fractures, over a 10 years period. The choice of an external fixation was determined by the poor reputation of internal fixation for even complex closed fractures. The reasons for the choice of the Ilizarov device were: the possibility of fitting the fixation pins close to the knee joint if necessary, the circular nature of the system, and finally the possibility of adding an intrafocal mounting (I.F.M.) which can bring the displaced **bone fragments** together using shaped blockstops pins. The program theoretically foresaw an initial sequence using external fixation until bone continuity was achieved, followed by a complementary plaster for one or two months. **Materials:** 7 of the 46 fractures were lost for follow-up. Of the remaining 39 cases, there were 5 early complications: one knee septic arthritis which led to stop the method before the second month. Each of these 5 failures were due to improper use of the method. 34 cases have been followed for more than two years. **Results:** 29 cases of consolidation of which 3 initial displacements were wrongly considered as acceptable. There was no case of displacement while the fixation was in place. There were 5 nonunions: 2 at the diaphyseal level in long metaphyso-diaphyseal fractures, 2 were comminutive metaphyseal fractures in which the fixation had been removed by error before the third month. With this fixation, neither the traumatic **opening**, nor the presence of a fibular fracture significantly affected consolidation. The healing period was however longer when the fracture was more extensive and comminutive. The bone gaps were treated by interfocal mounting (I.F.M.) but loss of bone stock persisted; they affected the occurrence of nonunion. **Conclusion:** Each failure of the method is explained by its improper use. The Ilizarov fixation is an excellent mechanical response to these fractures: on condition that the technical rules are respected, that an intrafocal mounting is used to remove interfragmentary gaps, and that the fixator is kept in place long enough, according to the size and comminutive nature of the **fracture**. This **fixation** is reliable in these conditions but does not compensate intrafocal bone loss exceeding 40 per cent of the metaphyseal bone mass.

MEDICAL DESCRIPTORS:

*proximal tibia fracture--surgery--su
adult; article; clinical article; female; fracture external fixation;
fracture treatment; human; male

SECTION HEADINGS:

033 Orthopedic Surgery

28/5/15 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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01549671 EMBASE No: 1980232965

Correction of malrotations of the femur and tibia by closed osteotomy using a new angular measurement device

KORREKTUR VON ROTATIONSFEHLSTELLUNGEN AN FEMUR UND TIBIA MIT
GESCHLOSSENER OSTEOTOMIE UND NEUEM WINKELMESSGERAT
Hempel D.

II Chir. Klin., Allg. Krankenh., 2000 Hamburg-Barmbek 60 Germany
Chirurg (CHIRURG) (Germany) 1980, 51/7 (480-481)
CODEN: CHIRA
DOCUMENT TYPE: Journal
LANGUAGE: GERMAN

Closed osteotomy with an internal saw by Kuntscher's method makes it possible to correct malrotations (e.g., after fractures) without **opening** up the site of the osteotomy. But one problem that remained was the accurate correction of the angular degree of the malrotation, as no sufficiently fixed point of reference was directly within reach. This was a hindrance to the widespread use of this osteotomy that is simple and, in conjunction with **intramedullary nailing** (or bolting), allows full weight bearing at once by the osteotomy. A new instrument for measuring angles, that is introduced into the drilled medullary cavity after the osteotomy with an internal saw up to the distal **piece of bone**, measures the precise rotation of both **bone fragments** in their angular relation to each other. Reading-off of the angle of the correction takes place outside the bone directly on the measuring instrument. Radiography is necessary only for the introduction of the instrument into the distal **bone fragment**.

MEDICAL DESCRIPTORS:

*femur; *malrotation syndrome; *osteotomy; *tibia
bone

SECTION HEADINGS:

- 033 Orthopedic Surgery
- 019 Rehabilitation and Physical Medicine
- 027 Biophysics, Bioengineering and Medical Instrumentation

28/5/16 (Item 4 from file: 73)

DIALOG(R)File 73:EMBASE

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01102222 EMBASE No: 1978231969

Palacos as an assistance of metal osteosynthesis in experiments

Minta P.

Osrodka Naukowa Badawczego Rehab. Narzadow Ruchu PPU, Ladek Zdroj Poland
Chirurgia Narzadow Ruchu i Ortopedia Polska (CHIR. NARZADOW RUCHU ORTOP.
POL.) (Poland) 1977, 42/4 (365-371)

CODEN: CNROA

DOCUMENT TYPE: Journal

LANGUAGE: POLISH SUMMARY LANGUAGE: ENGLISH; RUSSIAN

Diaphyseal fractures of the femur in rabbits were stabilized both by Kirschner wire which was put intramedullary and by Palacos. The Palacos filling was introduced intramedullary through a **hole** made in the cortex as close as possible to the fracture site, which created additional stabilization of the wire. It also reduced the possibility of lateral displacement of **bone fragments**. This fixation was applied in 12 rabbits; in 9 of them bone healing appeared at the usual time for this particular bone. In none of these cases was additional external stabilization used. In a control group of rabbits, consisting of 12 animals, experimental fractures were stabilized by using the **intramedullary V shaped nail**. It was found that **intramedullary fixation** completed with Palacos gives, when simple surgical technique is used, satisfactory intrinsic fixation of long bones in rabbits and it is strong enough to secure bone healing. Palacos, when introduced in the vicinity of the fracture site, caused a more abundant connective tissue

reaction and, afterwards, more ample callus as compared with the control group.

BRAND NAME/MANUFACTURER NAME: palacos

DRUG DESCRIPTORS:

*bone cement; *palacos; *poly(methyl methacrylate)

MEDICAL DESCRIPTORS:

*connective tissue; *diaphysis; *femur; *fracture; *fracture healing; *osteosynthesis; *rabbit

theoretical study; topical drug administration

CAS REGISTRY NO.: 9011-14-7, 9011-87-4 (palacos); 39320-98-4, 9008-29-1 (poly(methyl methacrylate))

SECTION HEADINGS:

037 Drug Literature Index

033 Orthopedic Surgery

28/5/17 (Item 5 from file: 73)

DIALOG(R) File 73:EMBASE

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00116420 EMBASE No: 1974106521

Pathology and treatment of the initial stages of infection complicating internal skeletal fixation

LA PATOLOGIA ED IL TRATTAMENTO DEGLI STADI INIZIALI DELLE INFEZIONI NELLE OSTEOSINTESI

Meyer S.; Willenegger H.

Rep. Chir., Osp. Cant., Liestal Switzerland

Minerva Ortopedica (MINERVA ORTOP.) 1973, 24/6 (266-278)

CODEN: MIORA

DOCUMENT TYPE: Journal

LANGUAGE: ITALIAN

Bone infection complicating bone repair develops insidiously. It may spread outwards from an internal focus (**intramedullary nail**) or inwards from an external area (infected hematoma after **bone** fixation). In the devitalized **fragments** , the pus invades the Haversian canals without producing any reaction. Histological examination of the living bone shows thrombosis of the capillaries and cellular infiltration. The affected bone can separate and be expelled as a sequestrum, it can remain as a chronic focus of infection, or it can be revitalized. At the commencement of every infection, one must await the process of demarcation and after this the necrotic bone must be diligently removed. When infection starts, there is a partial regression of reparative processes, a rise of temperature and persistent leucocytosis. Antibiotics should be given by the usual route. At this stage sensitivity tests will not have been done, but as it is a hospital infection being dealt with, the antibiotic giving the best results in that situation should be used. It is important to prevent hematoma formation by the use of suction drainage (Redon's method). Where infection has occurred, the treatment is surgical and consists of making a large enough **opening** of the infected area, using instillation drainage, preserving in situ the metal splinting and giving antibiotics. Open instillation drainage is preferable to closed instillation drainage. A combination of non absorbable antibiotics (Polybactrin) up to a concentration of 1/1000 in Ringer's solution, which is preferable to saline solution, should be used.

BRAND NAME/MANUFACTURER NAME: polybactrin

MANUFACTURER NAMES: wellcome/United Kingdom

DRUG DESCRIPTORS:

*bacitracin; *neomycin; *penicillin g; *polymyxin; *streptomycin

unclassified drug

MEDICAL DESCRIPTORS:

*fracture; *infection; *osteomyelitis; *osteosynthesis; *skeleton; *surgery
injury; methodology; therapy; microorganism; etiology; diagnosis; major
clinical study; drug administration

DRUG TERMS (UNCONTROLLED): polybactrin

MEDICAL TERMS (UNCONTROLLED): polybactrin

CAS REGISTRY NO.: 1405-87-4 (bacitracin); 11004-65-2, 1404-04-2, 1405-10-3,
8026-22-0 (neomycin); 1406-05-9, 61-33-6 (penicillin g); 11081-39-3,
1406-11-7, 52580-78-6 (polymyxin); 57-92-1 (streptomycin); 8025-77-2 (
polybactrin)

SECTION HEADINGS:

033 Orthopedic Surgery
037 Drug Literature Index
009 Surgery

28/5/18 (Item 1 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci

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10143476 Genuine Article#: BT09M Number of References: 12

Title: Fixatoin-based surgery: A new technique for distal radius osteotomy

Author(s): Croitoru H (REPRINT) ; Ellis RE; Small CF; Pichora DR

Corporate Source: Queens Univ, Kingston/ON/Canada/ (REPRINT); Queens

Univ, Kingston/ON/Canada/

, 2000, V1935, P1126-1135

ISSN: 0302-9743 Publication date: 20000000

Publisher: SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN,

GERMANY MEDICAL IMAGE COMPUTING AND COMPUTER-ASSISTED INTERVENTION -

MICCAI 2000

Series: LECTURE NOTES IN COMPUTER SCIENCE

Language: English Document Type: ARTICLE

Geographic Location: Canada

Journal Subject Category: COMPUTER SCIENCE, THEORY & METHODS

Abstract: Fixation-based surgery is a new technique for achieving difficult
corrections in some orthopedic procedures. The method is premised on
using a fixation device, such as a **fracture - fixation** plate, during
the alignment and distraktion phases of an open-wedge osteotomy. The
basic idea is similar to assembly of manufactured components: pilot
holes are drilled in the **bone fragments**, the fixation plate is
attached to one fragment and, when the fragment is moved, the alignment
has been achieved when the pilot **holes** in one fragment line up with
predetermined through **holes** in the fixation plate.

The method has been specifically developed to address osteotomy of
the distal radius to correct a malunited fracture. The method has been
validated in laboratory studies. Clinical trials suggest that the
method is no slower than the conventional technique, there is almost no
intraoperative X-ray exposure, and that exceptionally large corrections
can easily be achieved.

Identifiers--KeyWord Plus(R): PLANNING CORRECTIVE OSTEOTOMY; END

Cited References:

BILIC R, 1988, V91, P575, UNFALLCHIRURG
BILIC R, 1994, V76, P150, J BONE JOINT SURG BR
BILIC R, 1988, V91, P571, UNFALLCHIRURG
BRONSTEIN AJ, 1997, V22, P258, J HAND SURG-AM A
CLINE HE, 1988, V15, P320, MED PHYS
FERNANDEZ DL, 1996, P11, FRACTURES DISTAL RAD
JUPITER JB, 1992, V17, P406, J HAND SURG A
MA B, 1999, V1496, SPRINGER LECT NOTES

OSKAM J, 1996, V115, P219, ARCH ORTHOP TRAUM SU
POGUE DJ, 1990, V15, P721, J HAND SURG A
PORTER M, 1987, V220, P241, CLIN ORTHOPAEDICS
ZDRAVKOVIC V, 1990, V32, P141, COMPUT METH PROG BIO

28/5/19 (Item 1 from file: 94)

DIALOG(R) File 94:JICST-EPlus

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02369342 JICST ACCESSION NUMBER: 94A0914982 FILE SEGMENT: JICST-E

A case of a tibial intercondylar eminence fracture reduced and fixed arthroscopically.

KOBAYASHI SEN'EKI (1); TERAYAMA KAZUO (1); MARUYAMA MASAOKI (1); KOJIMA SEIICHI (1)

(1) Shinshu Univ., Fac. of Med.

Kansetsukyo(Arthroscopy), 1994, VOL.19,NO.1, PAGE.41-45, FIG.10, REF.8

JOURNAL NUMBER: L0107AAB ISSN NO: 0910-223X

UNIVERSAL DECIMAL CLASSIFICATION: 616.7-089

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: A simple method of arthroscopic reduction and **fixation** of a **fracture** of the intercondylar eminence of the tibia is reported. A 23-year-old man with a completely displaced(Type III B) fracture was treated arthroscopically. A satisfactory reduction was achieved by releasing the medial meniscus which was entrapped in the fracture site. Link Dynamic Staples could be used to firmly fix the fracture, when the guide tube came downward from the medial mid-patellar **portal**. The secure fixation of the fragment and the avoidance of an arthrotomy facilitated early functional rehabilitation. Ten months after surgery the patient had a stable, painless joint with a full range of motion. The described method is technically straightforward and can provide secure fixation of a **bone fragment**. The Link staples are found to be useful in the fixation of a displaced fracture of the intercondylar eminence of the tibia. (author abst.)

DESCRIPTORS: human(primates); case report; fracture fixation; fracture(disease); endoscopic surgery

BROADER DESCRIPTORS: reporting; action and behavior; orthopedic surgery; operative surgery; injury(disease); damage and injury; disease; bone disease; bone and joint disease

CLASSIFICATION CODE(S): GG050300

28/5/20 (Item 1 from file: 144)

DIALOG(R) File 144:Pascal

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12388043 PASCAL No.: 96-0035111

Cannulated screws for odontoid screw fixation and atlantoaxial transarticular screw fixation

DICKMAN C A; FOLEY K T; SONNTAG V K H; SMITH M M

St. Joseph's hosp., barrow neurological inst., div. neurological surgery, Phoenix AZ, USA

Journal: Journal of neurosurgery, 1995, 83 (6) 1095-1100

ISSN: 0022-3085 CODEN: JONSAC Availability: INIST-6023;
354000058996620250

No. of Refs.: 16 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: USA

Language: English

Cannulated screw systems use thin Kirschner wires (K-wires) that have been drilled into the bone to direct screw trajectories accurately into small bone fragments. Use of the K-wires avoids overdrilling the pilot holes and allows fixation of adjacent bone fragments during screw insertion. Hollow tools and hollow screws are inserted into the bone over the K-wires. Cannulated screw fixation is useful in the cervical spine to stabilize odontoid fractures and to treat atlantoaxial instability. This report describes techniques for successful cannulated screw insertion and methods to minimize complications. Cannulated screws have several distinct advantages compared to noncannulated screws : 1) the K-wires guide the screw position into the bone ; 2) the K-wire trajectory can be repositioned easily if the original trajectory was not ideal ; 3) the K-wires allow continuous fixation of adjacent unstable bone fragments ; and 4) the K-wires prevent migration of unstable bone fragments during screw insertion. Complications associated with the K-wire (breakage, repositioning, and advancement) can be minimized using precise operative techniques, a specialized tool system, and intraoperative fluoroscopic monitoring. A unique cannulated screw tool system was developed specifically for upper cervical fixation to allow percutaneous drilling using long tunneling devices, tissue sheaths, drill guides, and long K-wires. These tools allow delivery of cannulated **fracture - fixation** screws at a low angle to the spine through long soft-tissue trajectories. Cannulated screws have significant advantages compared to noncannulated screws for fixation of the unstable cervical spine.

English Descriptors: Fracture; Cervical spine; Odontoid process of axis; Atlas(bone); Axis(vertebrata); Osteosynthesis; Treatment; Instruments; Human

Broad Descriptors: Diseases of the osteoarticular system; Trauma; Spine disease; Surgery; Systeme osteoarticulaire pathologie; Traumatisme; Rachis pathologie; Chirurgie; Sistema osteoarticular patologia; Traumatismo; Raquis patologia; Cirugia

French Descriptors: Fracture; Rachis cervical; Apophyse odontoide; Atlas(os); Axis; Osteosynthese; Traitement; Instrumentation; Homme

Classification Codes: 002B25I

28/5/21 (Item 1 from file: 23)

DIALOG(R)File 23:CSA Technology Research Database
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0004559188 IP ACCESSION NO: WCA091003

FRACTURE FIXATION DEVICE

PUBLICATION DATE: 1993

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

FILE SEGMENT: Ceramics Abstracts/World Ceramic Abstracts

ABSTRACT:

A **fracture fixation** device comprises a bone supporting plate component and attachment means in the form of a plug arranged to be an interference fit within a pre-drilled **hole** in the bone without further damage to the **bone**. The **plug** may be held in place by resilient barbs or it can be expanded within the predrilled **hole** by an expanding member,

such as a pin. The pin and plug may be separate components. Alternatively, either the pin or the plug may be integral with the supporting plate. The device may be formed from a biologically degradable material such as a resorbable polymer or co-polymer, or from a composite material comprising a resorbable polymer and a particulate material. The particulate may be hydroxyapatite. A **fracture fixation** device formed from biologically degradable materials does not need to be removed from the body.

DESCRIPTORS: Bioceramic; Biodegradable; Biomaterial; Biomedical application
; Component; Composite; Fracture fixation device; Hydroxyapatite; Medical
application; Particulate; Polymer; Polymer-ceramic composite; Resorbable;
Technical; Economic community; Europe; UK; Western europe,
SUBJ CATG: WM, Applications; QQ, Medical, dental and veterinary application
; RX, Composites general
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